

# FLIGHT

First Aero Weekly in the World.

Founder and Editor: STANLEY SPOONER.

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport.

OFFICIAL ORGAN OF THE ROYAL AERO CLUB OF THE UNITED KINGDOM.

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## Flight.

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### TO OUR READERS.

#### The Supply of "FLIGHT." Important Notice.

As the demand for "FLIGHT" is so great each week, it is of the utmost importance that readers should place their orders *firmly* for copies of "FLIGHT" at the bookstalls, their newsagents, or direct from the publishers, at 44, St. Martin's Lane, W.C., if they wish to secure a copy every week and avoid disappointment. The semi-famine in printing paper calls for this precaution in order that only actual numbers required are printed, and all wastage by unsold copies may thereby be reduced to a minimum, if not eliminated.

THE PUBLISHERS.

### EDITORIAL COMMENT.

**A** NOTE of alarm has been sounded by most of the daily newspapers as to the possible results of Sweden prohibiting the exportation of wood pulp. The consensus of opinion, in view of the fact that sufficient quantities to compensate for the stoppage of Swedish supplies would not be procurable from British sources for some considerable time to come, appears to be that newspapers generally will have to considerably reduce their number of pages and conserve the limited supplies of paper available in other ways, such as the limiting of "returns." Possibly this enforced reduction in size, may turn out to be a blessing in disguise to the public, as there would probably then not be sufficient space available for the exploiting of such fatuous sensationalism of the type

of "the deadly Fokker" wheeze, which appears to have got such a firm grip upon most of the editorial departments of the ha'penny papers. It would be interesting to know how the birth of these sort of ravings comes about. There must be some ulterior motive in foisting such a tissue of nonsense day in and day out upon the innocent and nervy readers of these journals. Else a little enquiry backed by reasonable judgment would quickly have its effect, and the position would be seen in its true proportion by the man at the wheel. It seems very difficult to understand how such irresponsibility can exist in association with newspapers of position which will permit of the perversion of facts and the mendacious manipulation of official statements in such barefaced manner as to give obviously truthful explanations a totally different meaning to the sense contained in the information. *Somebody* must be pleased over this class of journalism or we imagine that it would not be pressed to the lengths to which it has attained, especially recently. That men who are in the position to really know—altogether outside officialdom—are strongly at variance with these attempts at wilfully perverting the truth is strongly in evidence from the many communications which have later been published. In these it is made perfectly clear that the Fokker episodes are but incidents in the regular ups and downs which necessarily must be occurring week in and week out in the course of such operations as are in full swing on the various fighting fronts. Some initiative in tactical methods for a moment has a success of its own, only to be countered within a very short space by some well-conceived antidote to the attempt to be top dog. In most cases

the antidote brings with it some fresh medicine of its own, which our enemies have in their turn to swallow with the best grace they can muster until they can again devise some other fresh form of "strafing" as a reply to whatever may have been got up for them. And so the game goes on. But to lay hold of the Fokker and elevate it into the position of a supremacy-in-the-air bogey is an absurdity, and only fit company for the air raid scare, the gross exaggeration of which is so prominent in various directions just now.

Taking the case of the "Fokker menace," we hear daily of their exploits and wonderful speed and climbing power. The former is generally put down as something like 110 m.p.h., while regarding the latter it is usually expressed as the ability to "climb to a great height in a few minutes," or in some similar and equally vague terms. Much fuss is made of the fact that the machine gun is so mounted that it shoots straight out between the blades of the propeller, and by one imaginative scribe it is likened unto a "swift bird with a snake's tongue." The fact seems to be largely ignored that in the first place the Fokker was simply a rather inferior imitation of the French Morane-Saulnier monoplane, and that the idea of firing between the blades of the propeller originated more than a year ago in France, Garros being generally credited with being the first to successfully sight his gun by means of the rudder and elevator of his machine; and, moreover, it is no secret that these deflector machines have been made in England. That the Fokker machines have been improved since the outbreak of war is only to be expected, but assuming that it is fundamentally the same as of old, with the exception of an engine something between 150 and 200 h.p. instead of the old 80 there seems no reason to regard it as such a phenomenon as the daily press would have their readers think. The speed, if the figure usually given of about 110 m.p.h. is correct, is nothing to worry about; we have scouts that will "make circles" round it, and as for the climb there are among our aircraft manufacturers several who are turning out machines that can more than hold their own against the Fokker at its best.

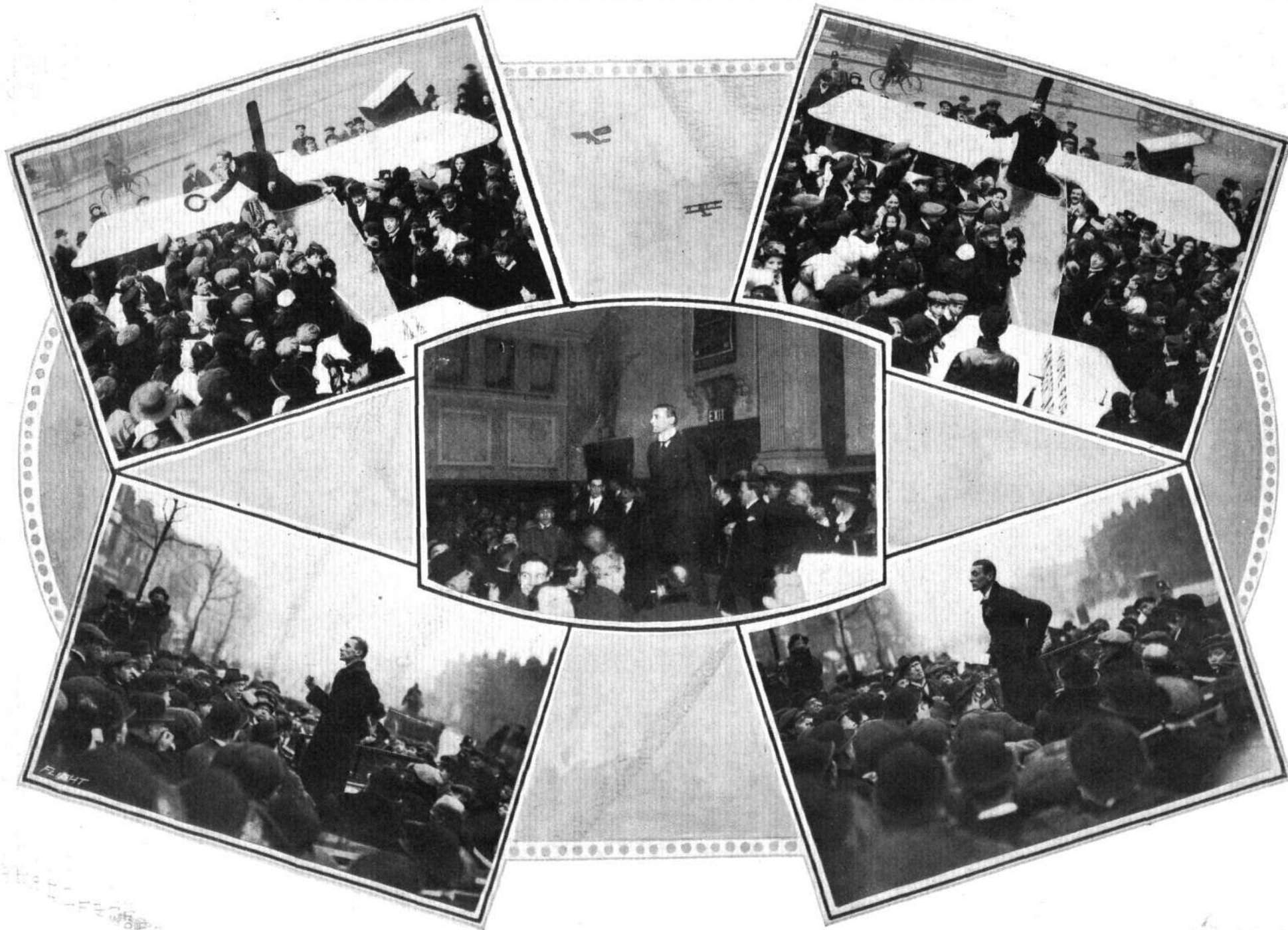
The Under-Secretary for War was in the House of Commons quite explicit and correct in his views of this machine and its range of action when he stated that it was incapable of prolonged flights away from its own lines and was mainly used for defensive purposes behind its own trenches. Quite ridiculous becomes the attitude of certain journals when they infer, without, of course, actually saying so, that the raids on the Kentish coast on Sunday last were made on Fokker monoplanes. To the lay journalist it is sufficient to know that a machine is capable of doing 110 m.p.h. and can fire its gun through the propeller, and he will imagine that it is *the* machine for *all* purposes. It is for this reason that one reads on posters "catch phrases" like "The new England strafers," or similar expressions, and that one journal in its blatant ignorance refers to Mr. Tennant's statement mentioned above in the following terms: "We may brush on one side Mr. Tennant's laboured attempt to prove that it (the Fokker) is of limited use."

Even the chance of helping to get an "air ticket" man into Parliament to fight for our cause can hardly justify such tactics. If the summary of a few weeks' work of our R.F.C., as given by the Under-Secretary for War on Monday last, be appraised at its true value, it will at once be seen that so far from the Germans, with or without the aid of their Fokkers, having it all their own way in aerial conflicts, it is very much the reverse. And if we could but record the actual details of all the reconnaissance work of the R.F.C., together with its results, in addition to the many combats during the course of those journeyings, and the real results of each of those combats, there would be very little left but bare bogey bones for the sensation loving Press to batten upon in shrieking about the inferiority of Britain in the air. Take but Monday's records of real military work accomplished by the Allies on the various fronts, if any doubts exist as to our being able to hold our own against anything our enemies may attempt, and all misgiving should immediately vanish. No doubt the daily episodes as they become public suggest that new conditions prevail in the tactics of the air, and there is little doubt that this is so. Equally patent is it that the Germans have materially strengthened their methods of defensive tactics. But this is about as far as one need go. It is to these defensive tactics that all the sensational fuss is due. It is our business to circumvent and break down that defensive. And we have never a doubt but that is being done systematically and persistently. In the direction of offensive air tactics, our enemies are as far, if not farther, behind us as they ever were. But this side of the picture is not revealed, except occasionally, through official sources. In keeping with our British temperament, when opportunity for enlargement upon our officers' achievements does come to hand, the inclination is rather to make little of the advantages gained, whilst any slight success of our enemies is at once exaggerated out of all proportion to its importance.

Taking another phase of scaremongering which is rampant, the advent of the Zeppelin raid season, and the question of reprisals in kind by our aircraft, here again the sense of proportion would appear to have been lost altogether. Our air fleet and those of our Allies are primarily for the attainment of military objects, and again we only have to look to the series of real military attacks as recorded for Monday of this week for evidence of our appreciation of this fact. Just contrast these with the ridiculous visits of the German aeroplanes on the Kentish coast, &c., and be comforted by the conclusions to be drawn therefrom. These trips are, no doubt, merely a reminder of the opening of the Zeppelin season, and we may anticipate with certainty that some combined moves will shortly be made to add to the German's bag of women and children, not only in London but in other centres where the Huns think they can inspire fear by their visits. Much as we deplore the resulting damage from these raids, it is but a minor matter when placed in focus with the war as a whole, and it will, we believe, be found by the raiders increasingly difficult each time to get away as scot free as they have hitherto been able to do. That



JANUARY 27, 1916.



THE FIRST "AIR-TICKET" ELECTION.—Mr. N. Pemberton-Billing, who fought the Mile End vacancy on Tuesday, in characteristic attitudes during his campaign amongst the electors.

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more effectual methods of protection to London can be evolved we think there is little doubt, and for that reason possibly some good would result from air interests having a real live man sitting in the House who would handle all questions in a practical way as they arose, and endeavour to initiate and force progress towards that ultimate goal which we all hope for—supremacy in the air. With the present spring we shall probably see activity in the air in every direction, such as even hitherto few have pictured. This will, however, be but a tiny step forward in the stride of this great world revolutioniser, and it is up to this country to take heed and see that in every stride made it shall be Britain who sets the pace and the length of the stride until she has outdistanced in the air all others as she has done on the seas.

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## The "Air-Ticket" Election.

During the contest for representing the Mile End constituency which ended on Tuesday last with the defeat of Mr. Pemberton-Billing, who took his stand on air, a good deal of ill-feeling was created by the accusation that in forcing a contest in the borough Mr. Billing was violating the truce which had been come to, to avoid all political party conflict. From the politician's point of view no doubt this was a perfectly legitimate attitude to take up, but as Mr. Pemberton-Billing did not put himself forward in the slightest sense as a politician—in fact quite the reverse, as we had occasion to point out last week—it was hardly reasonable to attempt to nail his ear down to an understanding with which he had no concern or quarrel. His one avowed object was to further the interests of his country in attaining that supremacy in the air which there are very few in the whole community who will not agree must be ours in the days to come. That the "air ticket" was intensely popular there is no question of doubt, and if sheer popularity counted for votes, "P.-B." would have sailed in miles ahead of his opponent. But although "politics" were taboo, not a single channel or device was left unused of both the Unionist and Liberal organisations to assisting the political candidate in getting to the top of the poll on Tuesday. That Mr. Pemberton-Billing scored as much as he did is rather to be wondered at under the circumstances, and this should give him encouragement to persist in his ambition to lead the Aviation interests in Parliament

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## The Fokker and its Ways.

SOME details as to the way in which Fokker machines are being used by the Germans were given in the House of Commons on the 20th inst. by Mr. Tennant in replying to Sir E. Cornwall who asked whether the British aeroplanes now at the front were equal in efficiency to the new German Fokker machines, and whether he could make any statement as to the results of the aerial fighting on the British front in Flanders during the last month.

Mr. Tennant said: In order that the present position as regards aerial fighting on the Western front may be correctly understood the defensive nature of the German method of fighting in the air must be kept in mind. It is to this kind of fighting only that the Fokker aeroplane, which is incapable of prolonged flights away from its own lines and over the British lines, is appropriate, though for this limited purpose its suitability is not

until they reach the level of Navy importance. The one great tactical mistake made by Mr. Billing was his allegation of there being a disregard in Government circles for the air raids so long as their operations were confined to the East End. Directly the raiders got a bit nearer the official districts, said the air candidate, a more serious view was taken of the dangers which might accrue to those living in the more affluent portions of London, and "the Government woke up and then England went mad. Why should you discriminate between men and women being blown up in the East End and the West End?" asked Mr. Pemberton-Billing. And it was this very ill-judged statement which brought a communication from the First Lord of the Admiralty, by means of which every party effort was made to prejudice Mr. Billing's chances. It was a grave pity that such an opening should have been afforded the opposition, especially as Mr. Billing was so very emphatic in making it clear that he was no politician and did not aspire to be one. It rather strikes us that by this slip he somewhat prematurely disclosed his hand, giving reason for thought that, although neither Liberal or Unionist, he might have concealed somewhere about him political ambitions in other directions, which in time might displace Aviation from premier position in his Parliamentary propaganda. However, this is by the way. His unquestionable earnestness of purpose in promoting the good of aircraft, primarily as a help in ending the war a little earlier, and ultimately as an industry worthy of the most generous fostering, entitles him to the support of those having faith in the future of this Empire in commanding the air. In advocating the support of Mr. Pemberton-Billing we have not the slightest personal objection to his late opponent, Mr. Warwick Brookes, or to any other candidate against whom he may be pitted. "P.-B." is out for the whole-hearted pushing of Aviation first and last, and that is sufficient for us, whilst the orthodox "official" candidate is simply, as a rule, a puppet vote, to walk in and out of lobbies under stress of the "whip," Aviation being but the thinnest of laths in the platform of his parliamentary convictions. In offering Mr. Pemberton-Billing our sympathy in his defeat, we shall venture to hope that the elected candidate will not forget the very strong views he has expressed in regard to upholding all that makes for supremacy in the air, and that we shall find in him a helpful supporter of any measures which are likely to bring about this much-to-be-desired position.

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disputed. The main duties of aeroplanes, however, are reconnaissance and artillery work, and, in our case, offensive fighting, and it is with reference to these duties that the suitability of our types of machine must be judged mainly. I may say, however, that if the Germans adopted the offensive and came behind our lines we have machines quite equal in efficiency and speed to the Fokker aeroplanes which they employ defensively behind their lines.

"In reply to the second part of the question, I would point out that, for the reasons I have mentioned, nearly every fight in the air takes place on the German side of the trenches. As a result, casualties to our aeroplanes and pilots, when they occur, tend to appear excessive by comparison, because the Germans can hide their own whilst advertising ours. But my military advisers are satisfied that our Flying Service has given a good account of itself in recent fighting.



# The British Air Service

"PER ARDUA AD ASTRA"

UNDER this heading are published each week the official announcements of appointments and promotions affecting the Royal Naval Air Service and the Royal Flying Corps (Military Wing) and Central Flying School. These notices are not duplicated. By way of instance, when an appointment to the Royal Naval Air Service is announced by the Admiralty it is published forthwith, but subsequently, when it appears in the LONDON GAZETTE, it is not repeated in this column.

## Royal Naval Air Service.

THE following appeared among the Admiralty announcements of the 18th inst. :—

Acting Wing-Commander F. C. Halahan, M.V.O., confirmed in rank of Wing-Commander, with original seniority.

Chief Petty Officer W. James and Petty Officer E. E. Barratt both promoted to the rank of Flight Sub-Lieutenant, for temporary service, on probation, with seniority of Jan. 15th.

Second Lieutenant (3rd Gordon Highlanders) L. R. Hulls granted temporary commission as Sub-Lieutenant (R.N.V.R.), with seniority of Jan. 17th, and appointed to the "President," additional, for R.N.A.S.

THE following appeared among the Admiralty announcements of the 19th inst. :—

Mate (E.) W. E. French, to "President," additional, for R.N.A.S. Jan. 18th.

THE following appeared among the Admiralty announcements of the 20th inst. :—

The undermentioned have been entered as Flight Sub-Lieutenants for temporary service, on probation, and appointed to the "President," additional, for R.N.A.S., to date as stated : A. M. Harding, Jan. 19th ; F. S. Mills, A. J. Chadwick, and E. S. Boynton, Dec. 30th ; B. D. Hobbs, Dec. 27th.

THE following appeared among the Admiralty announcements of the 21st inst. :—

Midshipman A. R. T. Pipon allowed to withdraw from R.N., Jan. 19th, and appointed Probationary Flight Sub-Lieutenant to the "President," additional, for R.N.A.S. To date Jan. 20th.

Engineer-Lieutenant J. S. Macham to the "President," additional, for R.N.A.S. To date Jan. 28th.

THE following appeared among the Admiralty announcements of the 24th inst. :—

Temporary Lieut. (R.N.V.R.) E. J. B. How, entered as Probationary Flight Sub-Lieutenant (temporary), with seniority of Jan. 22nd, and appointed to "President," additional, for R.N.A.S.

Temporary Sub-Lieuts. (R.N.V.R.) R. J. M. de St. Leger, V. R. Gibbs, H. L. Everitt, and J. T. Chitty, all entered as Probationary Flight Sub-Lieutenants (temporary), with seniority of Jan. 22nd, and appointed to "President," additional, for R.N.A.S.

J. A. Cameron and K. M. Smith both entered as Probationary Flight Sub-Lieutenants (temporary), with seniority of Dec. 30th, and appointed to "President," additional, for R.N.A.S.

## Royal Flying Corps (Military Wing).

THE following appeared in the *London Gazette* of the 18th inst. :—

**Balloon Officers.**—Dec. 8th, 1915 : Temporary Lieut. Hon. A. R. Boyle, Royal Scots Fusiliers, and to be transferred to the General List. Temporary Second Lieut. G. T. Beale, Royal Fusiliers (City of London Regt.), and to be transferred to the General List. Dec. 17th, 1915 : Capt. Percival K. Wise, Royal Warwickshire Regt., and to be seconded ; Temporary Second Lieut. C. G. Ronaldson-Clark, R.A., and to be transferred to the General List ; Second Lieut. A. G. D. Gavin, Black Watch (Royal Highlanders), Special Reserve, and to be seconded ; Second Lieut. Ernest H. Robinson, Special Reserve ; Dec. 18th, 1915 : Lieut. George F. M. Warner, Princess Charlotte of Wales's (Royal Berkshire Regt.), and to be seconded ; Dec. 21st, 1915 : Dec. 29th, 1915 : Temporary Lieut. J. F. Johnson, T.F.R. ; Temporary Lieut. H. D. Jensen, Royal Scots Fusiliers, and to be transferred to the General List. Temporary Second Lieut. I. P. H. Preston, R.A., and to be transferred to the General List ; Temporary Lieut. L. R. Briggs, London Regt. (T.F.)

**Wing-Adjutant.**—Capt. Victor H. Secker, 14th (King's) Hussars, and to be seconded. Jan. 15th, 1916.

**Assistant Equipment Officers.**—Second Lieut. O. H. Frost, Duke of Cambridge's Own (Middlesex Regt.) (T.F.) ; Dec. 22nd, 1915 : Second Lieut. Francis C. Buck, Special Reserve ; Dec. 24th, 1915.

**Supplementary to Regular Corps.**—To be Second Lieutenants (on probation) ; Dec. 13, 1915 : Harold M. MacCarthy, Colin J. Campbell, Morton Allport, Gilbert H. E. Rippon, Dirk Cloete, Eustratius G. Manuel, Humphrey C. G. Watney, Townsend C.

Webb-Bowen, Percy Pralle, Alexander J. Mayo, and Archibald G. Grant.

THE following appeared in a supplement to the *London Gazette* issued on the 19th inst. :—

Flight-Commander Capt. Percival K. Wise, Royal Warwickshire Regt., from a Balloon Officer. Dec. 18th, 1915.

Squadron-Commander Capt. Percival K. Wise, Royal Warwickshire Regt., from a Flight-Commander and to be Temporary Major whilst so employed. Dec. 31st, 1915.

**Supplementary to Regular Corps.**—To be Second-Lieutenants (on probation) : W. O. Crowe ; Dec. 7, 1915 : Reginald F. Howard ; Dec. 27th, 1915 : Bertie F. Crane ; Jan. 11th, 1916.

THE following appeared in a supplement to the *London Gazette* issued on the 20th inst. :—

**Squadron-Commanders from Equipment Officers (and to be Temporary Majors whilst so employed).**—Dec. 15th ; Capt. R. C. Donaldson-Hudson, T.F.R. ; Capt. A. Huggins, S.R.

**Flying Officers.**—Jan. 4th : Temporary Second-Lieut. M. G. P. Phillips, S. Lances, and transferred to General List ; Second Lieut. O. Lerwill, S.R. ; Second Lieut. L. C. Kidd, S.R.

**Memorandum.**—Temporary Lieut. Hon. W. C. W. Egerton, General List, to be Temporary Captain whilst employed as Assistant Officer-in-Charge, Royal Flying Corps records. Sept. 23rd.

THE following appeared in the *London Gazette* of the 21st inst. :—  
**Flight-Commanders from Flying Officers.**—Lieut. A. H. Morton, R.A., and to be Temporary Captain whilst so employed. Jan. 7th. Jan. 8th : Capt. C. T. Maclean, R.F., S.R. ; Temporary Lieut. S. G. Gilmour, General List, and to be Temporary Captain whilst so employed.

**Assistant Equipment Officer.**—Second Lieut. H. Baynes, S.R. Jan. 7th.

**Supplementary to Regular Corps.**—Second Lieutenants (on probation) confirmed in rank : O. Lerwill, H. Baynes, and G. C. Mills. To be Second Lieutenants (on probation). Dec. 13th : W. R. Lewis, C. H. Howell, and J. V. Read. Dec. 27th : H. Slingsby. Jan. 3. I. Curlewis. Jan. 17th.

THE following appeared in a supplement to the *London Gazette* issued on the 22nd inst. :—

**Flying Officers.**—Temporary Second Lieut. H. Hemming, General List, Dec. 14th, 1915. Dec. 16th, 1915 : Temporary Second Lieut. A. R. Johnston, H.L.I., and transferred to General List ; Temporary Second Lieut. J. T. Kyffin, 12th Res. Regt. of Cav., and transferred to General List ; Lieut. D. C. Rutter, R. Sussex, S.R., and seconded ; Second Lieut. E. Robinson, R.A., and seconded ; Second Lieut. E. M. Gilbert, Essex, S.R., and seconded ; Dec. 18th, 1915. Dec. 19th, 1915 : Lieut. W. S. F. Johnson, Leics. Yeo. ; Temporary Lieut. C. E. Sherwin, Hants Fortress Engrs. (T.F.) ; Temporary Lieut. H. O. Long, R.E. ; Second Lieut. S. E. Pither, K.O.S.B., and seconded ; Temporary Second Lieut. H. A. Tweedie, attached 10th Hrs., and transferred to General List ; Dec. 22nd, 1915 ; Lieut. L. T. N. Gould, R.A., and seconded ; Dec. 25th, 1915. Second Lieut. T. M. McKenna, 8th Hrs., S.R. ; Jan. 3rd, 1916. Lieut. (temporary Capt.) F. W. H. Simpson, R.A., to relinquish temporary rank, and seconded ; Jan. 5th, 1916. Initials of Temporary Second Lieutenant S. G. Ridley, Yorks., as now described, not as in *Gazette* of Dec. 13th, 1915.

**Supplementary to Regular Corps.**—Second Lieut. (on probation) W. G. Pender confirmed in rank. To be second lieutenants (on probation), Jan. 1st : M. M. Sisley, G. S. Rogers, H. C. Baker, G. P. Ham, W. M. Carlyle, R. W. Catto, F. M. Carter, F. L. Hambly, W. Scatterly, G. L. Main, C. St. G. Campbell, W. E. Roe, H. M. Corbold, J. W. Lockhart, G. P. Alexander, E. Laurie, J. P. Porter, F. S. Schell, W. H. Hubbard, J. G. Rylie, R. E. A. Macbeth, F. H. Stone, E. A. McKay, G. A. Lascelles, H. Spanner, C. T. Lally, W. E. McCoy, R. W. Young, C. V. Hewson, L. M. McCoy, J. R. Chamberlain, J. H. Ryan, W. E. Soper, and H. M. Fleming. Hon. F. W. S. McLaren. Jan. 17th.

THE following appeared in a supplement to the *London Gazette* issued on the 24th inst. :—

**Equipment Officer.**—Second Lieut. J. Dickson, South African Engineer Corps, and to be Temporary Captain whilst so employed, Dec. 24th, 1915.

**Flying Officers.**—Temporary Captain I. U. D. Truman, A.S.C., and to be transferred to the General List ; Captain J. E. Dixon-

Spain, Hampshire Regt., and to be seconded; Temporary Second Lieut. A. Cunningham-Reid, R.E., and to be transferred to the General List, Dec. 15th, 1915. Capt. Stuart Grant-Dalton, Alexandra, Princess of Wales's Own (Yorkshire Regt.); Lieut. Vaudley A. Albrecht, Manchester Regt., and to be seconded; Lieut.-Com. W. E. Cole-Hamilton, Royal Scots (Lothian Regt.), and to be seconded; Temporary Lieut. W. W. Carey-Thomas, General List; Temporary Second Lieut. G. H. Gordon, R.A., and to be transferred to the General List; Temporary Second Lieut. L. J. Mann, A.S.C., and to be transferred to the General List; Second Lieut. F. G. W. Marchant, Queen's Own (Royal West Kent Regt.), and to be seconded; Second Lieut. J. R. Taylor, Rifle Brigade (Prince Consort's Own), and to be seconded: Jan. 6th, 1916. Second Lieut. George C. Mills, Special Reserve: Jan. 8th, 1916. Temporary Second Lieut. S. E. Adams, R.A., and to be transferred to the General List. Second Lieut. William G. Pender, Special Reserve: January 11th, 1916.

Assistant Equipment Officer.—Second Lieut. Joseph G. Francis, South African A.C. Nov. 26th, 1915.

*Supplementary to Regular Corps.*—To be Second Lieutenants (on probation): Cornwall P. W. Jolliffe; Dec. 20th, 1915. Stanley A. Alder; Dec. 23rd, 1915. Eric W. Vaughan; Dec. 27th, 1915. Reginald F. Tindall; Dec. 29th, 1915. Sydney G. Frost, Jan. 17th, 1916. Evan D. L. Davies; Jan. 24th, 1916.

*Memorandum.*—Temporary Lieut. W. B. Hellard, General List, to be Temporary Captain whilst employed with the Kite Balloon Section. Jan. 14th, 1916.

## Royal Flying Corps (Territorial Force).

The following appeared in the *London Gazette* of the 18th inst. :—

*Hampshire Aircraft Parks, R.F.C.*—To be Second Lieutenants, Dec. 23rd, 1915: Wallace J. Webber, Herbert Medcalf, Sydney J. Waters, Samuel B. Smith, Roland Harrison, and Alan L. Bird.

The following appeared in a supplement to the *London Gazette* issued on the 22nd inst. :—

*Hampshire Aircraft Parks, R.F.C.*—C. H. Douglas, to be Captain (Temporary), Jan. 1st, 1916.

## HONOURS FOR THE R.F.C.

IN a supplement to the *London Gazette* issued on the 21st inst., it was announced that the King has been graciously pleased to give orders for the award of the Distinguished Service Cross to the undermentioned officer in recognition of his services during the advance on Kut-el-Amara on September 27th and 28th, 1915 :—

Flight-Lieutenant VIVIAN GASKELL BLACKBURN, R.N.

Flight-Lieutenant Blackburn did excellent air reconnaissance work, and came under heavy fire on the afternoon of September 28th, whilst carrying despatches between the General Officer Commanding and the "Comet."

In the list of awards for gallant service in the field included in a supplement to the *London Gazette* issued on the 23rd inst., there were the following :—

His Majesty the King has been graciously pleased to approve of the appointment of the undermentioned officer to be Companion of the Distinguished Service Order, in recognition of his gallantry and devotion to duty in the field :—

Captain MALCOLM McBEAN BELL-IRVING, Royal Flying Corps (Special Reserve).

For conspicuous and consistent gallantry and skill during a period of nine months in France, notably on December 19th, 1915, between Lille and Ypres, when he successfully engaged three hostile machines. The first he drove off, the second he sent to the ground in flames, and the third nose-dived and disappeared. He was then attacked by three other hostile machines from above, but he flew off towards Ypres, and chased a machine he saw in that direction. He overhauled it, and had got to within 100 yards when he was wounded by a shell and had to return.

His Majesty the King has been graciously pleased to confer the Military Cross on the undermentioned officers,

in recognition of their gallantry and devotion to duty in the field :—

Lieutenant (Temporary Captain) GEORGE LOCKHART PIERCY HENDERSON, Royal Flying Corps (Special Reserve).

For conspicuous gallantry and skill. On November 28th, 1915, between La Bassée and Lille, after he had driven down one Albatros, he attacked two other hostile machines, and in spite of heavy fire put them both to flight. Then under anti-aircraft fire he chased two more machines and drove them off. On December 2nd, near Don, when on escort to a bombing expedition, he was hit by a bullet in the head in a fight with a German machine. Though partially stunned and half blinded, he succeeded in bringing his own machine back to his aerodrome.

Second Lieutenant (Temporary Captain) WILLIAM DOUGLAS STOCK SANDAY, Royal Flying Corps (Special Reserve).

For conspicuous gallantry and skill near Hulluch on January 1st, 1916. He went out in a very high wind to observe the fire of a battery, and, owing to the clouds, was forced to fly at a height of between 800 ft. and 900 ft. Although continually subjected to very heavy rifle fire from the German trenches, he enabled our battery to obtain several direct hits.

His Majesty the King has been graciously pleased to approve of the award of the Distinguished Conduct Medal to the undermentioned for gallantry and devotion to duty whilst serving with the Expeditionary Force in France :—

3022 1st Class Air-Mechanic T. H. DONALD, Royal Flying Corps.

For conspicuous gallantry and ability on November 7th, 1915, in France. When on patrol in a Vickers fighting machine, with Lieut. Insall as pilot, a German machine was sighted, pursued, and attacked near Achiet, First Class Air-Mechanic T. H. Donald showed very great skill as a gunner. The enemy machine was brought down by his fire and burnt on the ground by an incendiary bomb, while at least one of its crew was wounded. Our own machine was damaged, and forced to alight 500 yards inside our lines, where it was heavily shelled on the ground. It was, however, repaired during the night and flown safely home at dawn.

## THE "X" AIRCRAFT RAIDS.

THE following announcements have been officially issued :—

### "X14" Raid, January 23rd.

"War Office, Jan. 23rd, 12.55 p.m.

"Taking advantage of the bright moonlight, a hostile aeroplane visited the east coast of Kent at one o'clock this morning, and, after dropping nine bombs in rapid succession, made off seawards. No naval or military damage was done, but some damage was caused to private property, and an incendiary bomb caused fires, which, however, were extinguished by 2 a.m. It is regretted that, according to reports received, the following civilian casualties occurred :—1 man killed, 2 men, 1 woman, and 3 children slightly injured."

### "X15" Raid, January 23rd.

"War Office, Jan. 23rd, 7.45 p.m.

"Following upon the aerial attack upon the east coast of Kent in the early hours of this morning, two hostile seaplanes made a second

attack upon the same locality shortly after noon to-day. After coming under heavy fire the raiders disappeared, pursued by our naval and military machines. The enemy effected no damage. No casualties have been reported."

### "X16" Raid, January 24th.

"Press Bureau, Jan. 24th, 10.30 p.m.

"A German seaplane passed over Dover at 4 p.m. to-day. It was engaged by all anti-aircraft guns and pursued by two British machines."

### German Version of the "X14" and "X15" Raids.

On the night of the 22nd and 23rd inst. one of our seaplanes dropped bombs on the railway station, barracks and docks at Dover. On the afternoon of the 23rd inst. two of our seaplanes dropped bombs on the airship sheds at Hougham (West Dover). The outbreak of a heavy fire was ascertained beyond doubt."



# A "POPULAR" TYPE AEROPLANE DESIGN.

By C. M. POULSEN.

(Continued from page 58.)

IN our last issue we published a rough design for the fuselage with pilot's seat, engine, engine plate, &c., and the next step is the calculation of the weight of the various items. These will be found in one of the accompanying tables, which gives, in the first column the item, in the second the weight in lbs. of the item, in the third the distance of the item from the engine plate (in feet), when in front and when behind. In the fourth column is given the moment of the item about the point of intersection of the engine plate and centre line of the fuselage, for positive moments, and in the fifth the negative moments about the same point.

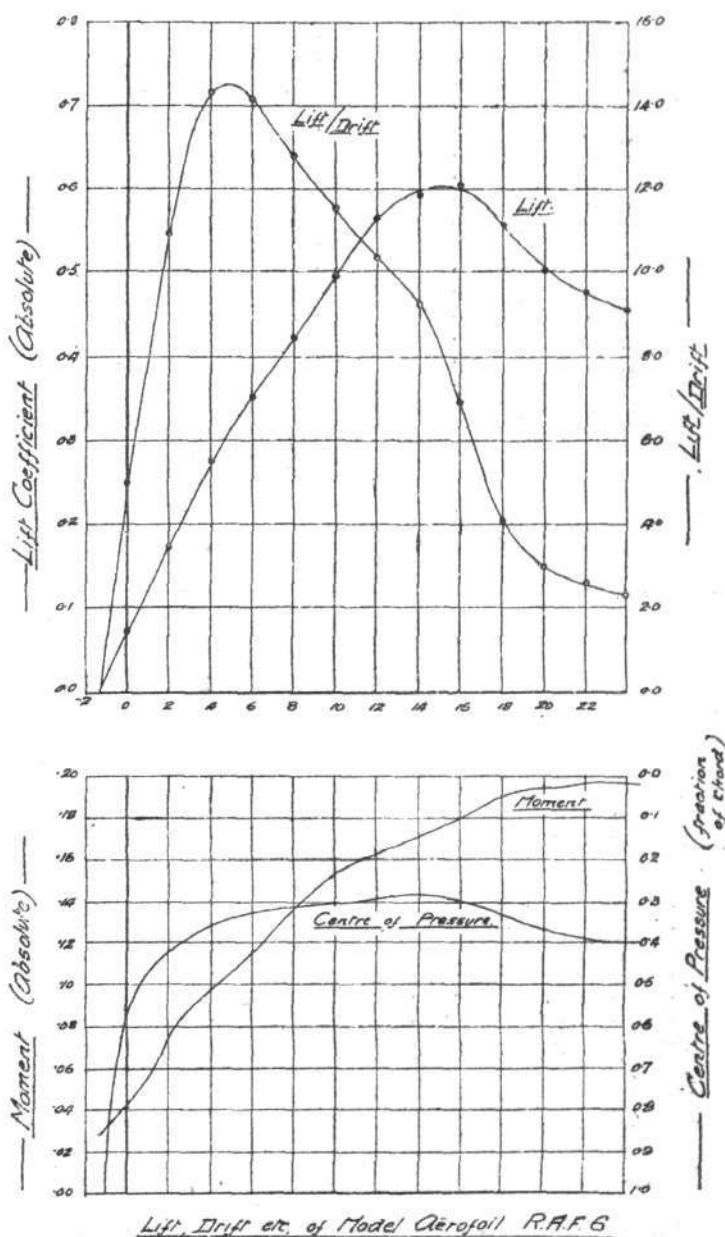
As regards the weight of the various items a few remarks concerning the method of arriving at this may not be amiss. The weight of the propeller—18 lbs.—is assumed and should be approximately correct, judging from known figures. The weight of the engine is given by the makers, and 8 lbs. for the engine plate is obtained by calculation from the size and form decided upon in our last issue. For the  $\frac{1}{4}$ -in. bracing rods in the first bay behind the engine 5.6 lbs. may seem somewhat excessive, but this figure is meant to include all the other incidentals in the mounting. For the longerons 12 lbs. has been allowed, on the assumption that spruce weighs 32 lbs. per cu. ft. (.018 lb. per cu. in.), and all the weights of the three-ply formers include bolts and wiring plates; 44 lbs. per cu. ft. (.025 lb. per cu. in.) has been allowed for the three-ply wood, and .046 lb. for each of the 14 gauge wiring plates, and .057 lbs. for each of the 12 gauge plates. For each  $\frac{3}{16}$ "  $\times$   $1\frac{1}{4}$ " bolt .02 lb. has been allowed, and for each  $\frac{1}{4}$ "  $\times$   $1\frac{1}{4}$ " .035 lb.

The makers of the engine state that the fuel consumption is 2.7 gals. per hour of petrol, while the consumption of oil is .5 gal. per hour. For 3 hours' flight the petrol consumption would, therefore, be 8.1 gals. of petrol and 1.5 gals. of oil. Taking petrol as weighing 7.2 lbs. per gallon the weight of 3 hours' petrol =  $8.1 \times 7.2 = 58.3$ , say 60 lbs. Taking oil as weighing 10 lbs. per gallon, the weight of 3 hours' oil =  $1.5 \times 10 = 15$  lbs. For the tank 15 lbs. has been allowed, which is a fair figure. Objection might be taken to the position allowed for the fuel tanks between formers No. II and III on the score that they are not placed over the centre of gravity, but as several successful machines have their tanks similarly arranged, and it would be a lot of trouble and expense to fit them in over the c.g. I decided on this position, relying on the elevators to be able to correct any difference in trim as the fuel is consumed.

The weight of controls and instruments is taken from known samples. I have taken the weight of the pilot as 160 lbs., and assumed that his seat will account for a weight of 10 lbs. For the tail piece 4 lbs. has been allowed, on the assumption that spruce weighs 32 lbs. per cubic ft., and that the tail piece is partly hollowed out. The surface area of the fuselage is obtained from the figures given in the N.P.L. report of the model B.F. 36, which was 121.8 sq. ft. As our fuselage is octagonal instead of circular in section, the area may be taken as about 115 sq. ft., for which 9 lbs. has been allowed. The weight of the crosswiring in the fuselage has been taken as 9 lbs., which is meant to include 14 gauge wire in the rear portion and 12 gauge wire in front, as well as wire strainers in some of the front bays. In order to find the centre of gravity of the body minus

wings and chassis 25 lbs. has been allowed for the tail planes, a figure which may be taken as sufficiently accurate for purposes of first estimate of c.g. Adding up the figures in the second column of our table we obtain a total weight (minus wings and chassis, of course) of 543 lbs. and can now proceed to calculate the wing area.

Designers differ considerably in their preferences when it comes to choosing a suitable wing section, but for the present purpose I have chosen the one known as R.A.F. 6 partly because it is, everything considered, quite an efficient section, and partly because very full reports have been published of experiments on this section in model form and a fairly complete set of figures is available of lift and drift coefficients, centre of pressure coefficients, &c. In addition to the graphs and tables published in the N.P.L. report and reproduced herewith I have compiled a table, which shows in a more convenient form the lift obtained with the chosen section at different



Graph showing lift, drift, lift/drift, and centre of pressure coefficients of the plane section (N.P.L. Report).

speeds and angles of incidence. These are, it should be noted, monoplane values and in order to obtain corresponding biplane values it is necessary to multiply them with the value for biplane spacing, which is, in turn, determined by the amount of stagger and gap. As the lift and drift coefficients given in the N.P.L. report are in "absolute" units the figures in the table compiled by me were obtained by multiplying these coefficients by  $v^2 \times 0.00238$ . In another table we are given the dimensions of the section expressed in terms of the chord, from which it is a simple matter to plot the full scale section for any length of chord.

Let us now examine the area required to lift the machine at its maximum speed, which was to be

*Table of body items weights, and their distance from engine plate. For propeller and engine the sign is minus since they are in front of the engine plate, for all the other items the sign is plus.*

Item.	Weight (lbs.).	Distance from Engine Plate.	Moment (+).	Moment (-).
Propeller ...	18.00	- 1.04	—	18.70
Engine ...	121.00	- 0.42	—	50.80
Engine plate ...	8.00	0.00	—	—
Bracing rods ...	5.60	+ 0.50	2.80	—
Longerons ...	12.00	+ 6.00	72.00	—
Former No. I ...	3.25	+ 1.10	3.58	—
" II ...	3.60	+ 2.30	8.20	—
Fuel and tanks	90.00	+ 3.17	285.00	—
Former No. III	4.30	+ 3.90	16.80	—
" IV	3.60	+ 4.50	16.20	—
Controls ...	20.00	+ 4.50	90.00	—
Instruments ...	20.00	+ 4.50	90.00	—
Pilot and seat ...	170.00	+ 5.50	935.00	—
Former No. V ...	4.00	+ 6.00	24.00	—
" VI ...	2.78	+ 8.00	21.25	—
" VII ...	2.41	+ 10.00	24.10	—
" VIII ...	2.13	+ 11.83	25.00	—
" IX ...	2.00	+ 13.50	27.00	—
" X ...	1.83	+ 14.92	27.15	—
" XI ...	1.58	+ 16.00	25.30	—
Tail piece ...	4.00	+ 16.83	67.00	—
Fabric ...	9.00	+ 7.00	63.00	—
Wiring ...	9.00	+ 4.00	36.00	—
Tail planes ...	25.00	+ 16.00	400.00	—
Total ...	543.08	—	2,259.38	69.50

*Table showing lift in lbs./sq. ft. of the plane section at various velocities and angles of incidence. In the last three columns the velocities are in m.p.h. (Monoplane Values).*

Inclination of Chord(°).	Lift (in lbs. per sq. ft.) at feet per second.																							Inclination of Chord(°).	
	40.	45.	50.	55.	60.	65.	70.	75.	80.	85.	90.	95.	100.	105.	110.	115.	120.	125.	130.	135.	140.	100 m.p.h.	105 m.p.h.		110 m.p.h.
- 2	0.011	0.014	0.02	0.02	0.03	0.03	0.04	0.04	0.05	0.05	0.06	0.064	0.07	0.08	0.09	0.09	0.10	0.11	0.12	0.13	0.14	0.15	0.168	0.18	- 2
0	0.28	0.36	0.42	0.53	0.63	0.74	0.86	0.99	1.12	1.26	1.42	1.59	1.76	1.94	2.14	2.33	2.53	2.75	2.98	3.22	3.46	3.77	4.15	4.53	0
2	0.64	0.83	0.97	1.24	1.47	1.73	2.00	2.32	2.63	2.95	3.32	3.73	4.10	4.53	4.98	5.48	5.90	6.41	6.95	7.50	8.10	8.80	9.70	10.6	2
4	1.04	1.32	1.54	1.98	2.34	2.75	3.18	3.68	4.18	4.70	5.48	5.91	6.55	7.20	7.92	8.65	9.40	10.2	11.1	11.9	12.9	14.0	15.4	16.8	4
6	1.33	1.70	1.98	2.55	3.00	3.54	4.10	4.75	5.38	6.03	6.80	7.60	8.40	9.27	10.2	11.1	12.1	13.2	14.3	15.4	16.6	18.0	19.8	21.6	6
8	1.56	2.03	2.37	2.95	3.59	4.23	4.90	5.51	6.40	7.20	8.10	9.10	10.1	11.1	12.2	13.3	14.4	15.7	17.1	18.4	19.8	21.5	23.7	25.8	8
10	1.88	2.38	2.77	3.57	4.22	4.96	5.75	6.63	7.52	8.49	9.53	10.6	11.8	13.0	14.3	15.6	16.9	18.4	20.0	21.6	23.3	25.3	27.8	30.3	10
12	2.13	2.70	3.15	4.05	4.80	5.64	6.51	7.55	8.55	9.65	10.8	12.1	13.4	14.7	16.2	17.8	19.3	21.0	22.7	24.5	26.4	28.8	31.6	34.5	12
14	2.25	2.85	3.32	4.27	5.00	5.93	6.85	7.91	9.00	10.10	11.4	12.7	14.1	15.5	17.1	18.6	20.3	22.0	23.8	25.8	27.8	30.3	33.2	36.2	14
16	2.28	2.90	3.35	4.32	5.10	6.05	6.93	8.05	9.10	10.20	11.5	12.9	14.3	15.7	17.3	18.9	20.5	22.3	24.3	26.1	28.1	30.5	33.6	36.7	16
18	2.08	2.64	3.08	3.95	4.67	5.50	6.38	7.36	8.34	9.40	10.5	11.8	13.1	14.4	15.8	17.3	18.8	20.5	22.2	24.0	25.7	28.0	30.8	33.6	18
20	1.90	2.40	2.80	3.60	4.25	5.00	5.80	6.70	7.60	8.50	9.60	10.7	11.9	13.1	14.4	15.7	17.1	18.6	20.2	21.7	23.4	25.5	28.0	30.6	20
22	1.80	2.28	2.67	3.42	4.05	4.76	5.52	6.36	7.22	8.14	9.13	10.2	11.3	12.5	13.7	15.0	16.3	17.7	19.2	20.7	22.3	24.2	26.6	29.1	22
24	1.72	2.18	2.56	3.28	3.88	4.56	5.30	6.10	7.02	7.80	8.73	9.80	10.8	11.9	13.2	14.4	15.6	16.9	18.2	19.8	21.3	23.3	25.6	27.8	24

65 m.p.h., or approximately 95 ft./second. At this speed, and at 4° incidence (the angle to which corresponds the maximum value of lift/drift), the lift of R.A.F. 6 is 5.91 (monoplane value). By choosing suitable gap and stagger—when gap = chord an efficiency of about 81 per cent. is obtained, and by a stagger of 0.4 of chord another 5 per cent.—we may expect a biplane efficiency of about 85 per cent. As, however

the wings have to carry their own weight before they lift the machine we must make an estimate of the weight of the wings before we can find the area necessary to lift the machine. From such data as I have available a fair weight to assume for wings would be .8 lb. per sq. ft. As a matter of fact, there is every reason to expect that we can build them for a slightly smaller weight and still maintain a sufficiently high factor of safety, and I have chosen .8 to be on the safe side.

It therefore follows that the useful lift of the wings at 95 ft./sec. and 4° incidence =  $5.91 \times .85 - .8 =$

*Table of lift, drift, lift/drift and centre of pressure coefficients of R.A.F. 6 section taken from N.P.L. Report.*

Inclination of Chord (°).	Lift Coefficient (Absolute).	Drift Coefficient (Absolute).	Lift/Drift.	Centre of Pressure Coefficient.	Coefficient of Moment about Leading Edge (Absolute).
- 2	0.003	0.0201	—	—	0.023
0	0.074	0.0165	4.5	0.575	0.043
2	0.173	0.0159	10.9	0.425	0.074
4	0.275	0.0193	14.3	0.358	0.097
6	0.354	0.0252	14.1	0.329	0.115
8	0.423	0.0329	12.9	0.312	0.136
10	0.496	0.0433	11.4	0.302	0.154
12	0.564	0.0545	10.4	0.292	0.163
14	0.593	0.0640	9.3	0.280	0.171
16	0.605	0.0875	6.9	0.296	0.180
18	0.550	0.1336	4.1	0.330	0.190

\* Distance of c.p. from leading edge expressed in terms of chord.

*Table of dimensions of the plane section as decimal fractions of the chord.*

Distance from Leading Edge in terms of Chord.	Height above Chord in terms of Chord.		Distance from Leading Edge in terms of Chord.	Height above Chord in terms of Chord.	
	Upper Surface.	Lower Surface.		Upper Surface.	Lower Surface.
0	0.005	0.000	.5	0.071	0.005
.025	0.032	—	.6	0.065	0.004
.05	0.044	0.002	.7	0.057	0.003
.1	0.060	0.004	.8	0.044	0.002
.2	0.074	0.007	.9	0.027	0.001
.3	0.076	0.008	1.0	0.005	0.000
.4	0.075	0.007			

4.17 lbs./sq. ft. Assuming that a sufficiently strong undercarriage for a weight of 50 lbs. can be built we have a total weight, less wings, of  $593 \div 4.17 = 142$  sq. ft. For first estimates I suggest taking a chord of 4' 0" and a mean span of 20' 0". This gives an area of 80 sq. ft. for the top plane and about 70 sq. ft. for bottom plane, total 150 sq. ft. As weight of wings =  $150 \times .8 = 120$  lbs. the total weight of machine =



$593 + 120 = 713$  lbs. The loading corresponding to this figure is  $713 \div 150 = 4.8$  lbs./sq. ft. For the low speed it will be seen from the table that at 55 ft./sec.  $16^\circ$  incidence the lift is 4.32 lbs./sq. ft. The lift obtained with biplane efficiency of 85 per cent. is therefore  $4.32 \times .85 = 3.7$  lbs./sq. ft. It will thus be seen that it will not be possible to obtain the minimum speed of 35 m.p.h. unless either the weight of the various items is cut down or the area increased until the loading has been reduced to 3.7 lbs./sq. ft. Before deciding on such drastic measures as re-designing the whole *fuselage* it will be interesting to see what results can be got by increasing the area. It is obvious that if the area is increased and the angle of incidence kept the same excess lift will be obtained at the maximum speed, which would have to be counteracted, when flying level, by pointing the nose of the machine downwards. As this is undesirable partly because the downward angle of the propeller shaft gives a downward component and partly because the *fuselage* will then not be flying at the angle of least resistance, a compromise may be effected by setting the wings at a smaller angle of incidence with relation to the propeller shaft. I am well aware that in so doing difficulties will be again encountered since the machine will not be flying at the angle corresponding to the maximum lift/drift, and that she will also be flying closer to the lower critical angle, but the excuse is that the drift co-efficient is smaller at  $2^\circ$  than at  $4^\circ$ , and that any possible tendency to "hunt" can be counteracted by setting the tail plane at a small negative angle of incidence.

It will be seen that at  $2^\circ$  incidence and velocity of

95 ft./sec. the lift is 3.73 lbs./sq. ft. Allowing for biplane interference we get lift of biplane  $= 3.73 \times .85 = 3.17$  lbs./sq. ft. Assuming that this larger plane can be built for the same weight of .8 lbs./sq. ft. there is obtained useful lift  $= 3.17 - .8 = 2.37$  lbs./sq. ft. Area required is, therefore,  $593 \div 2.37 = 250$  sq. ft. The weight of the wings is  $250 \times .8 = 200$  lbs., and the total weight of the machine  $593 + 200 = 793$  lbs. The loading is, therefore,  $793 \div 200 = 3.9$  lbs./sq. ft., this is .2 lbs./sq. ft. heavier than the lift at the minimum speed, but as at the higher angles the *fuselage* begins to give a certain amount of lift it may be reasonably expected that the *landing speed* will be not far above the minimum of 35 m.p.h. which we set out to obtain.

There now remains to be seen whether we shall be able, with the larger wings, to get the maximum speed. At an angle of incidence of  $2^\circ$  the lift/drift is 10.9. Taking it as sufficiently accurate for the moment to assume that the lift/drift is unaffected by velocity and length of chord we have lift at  $2^\circ$  incidence and 95 ft./sec.  $= 3.73$  lbs./sq. ft. Total lift therefore  $= 250 \times 3.73 = 932$  lbs., and drift  $= 932 \div 10.9 =$  about 85 lbs. As the makers of the Anzani engine state that with a propeller efficiency obtained in ordinary practice the 30 h.p. "Y" type Anzani engine will give about 150 lbs. thrust we have  $150 - 85 = 65$  lbs. available for overcoming resistance of body, chassis, strutting and wiring. As, owing to the fairly good stream line of the body, this will not offer any great resistance it may be reasonably expected to get the maximum speed aimed at. (To be continued.)

## THE FLYING SERVICES FUND—ADMINISTERED BY THE ROYAL AERO CLUB.

THE Flying Services Fund has been instituted by the Royal Aero Club for the benefit of officers and men of the Royal Naval Air Service and the Royal Flying Corps who are incapacitated on active service, and for the widows and dependants of those who are killed.

The Fund is intended for the benefit of all ranks, but especially for petty officers, non-commissioned officers, and men.

Forms of application for assistance can be obtained from the Royal Aero Club, 166, Piccadilly, London, W.

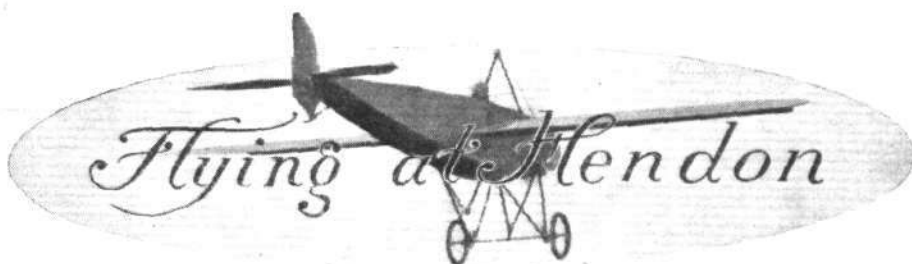
### Subscriptions.

	£	s.	d.
Total subscriptions received to Jan. 18th, 1916...	10,411	5	2
Collected at the Westland Aircraft Works, Yeovil (Sixteenth contribution) ...		0	13 9
Employés of Ruston, Proctor, and Co., Ltd. (Fifth contribution) ...		2	0 0
E. Dukinfield Jones (Third contribution) ...		10	10 0

Total, January 25th, 1916 ... 10,424 8 11

B. STEVENSON, Assistant Secretary.

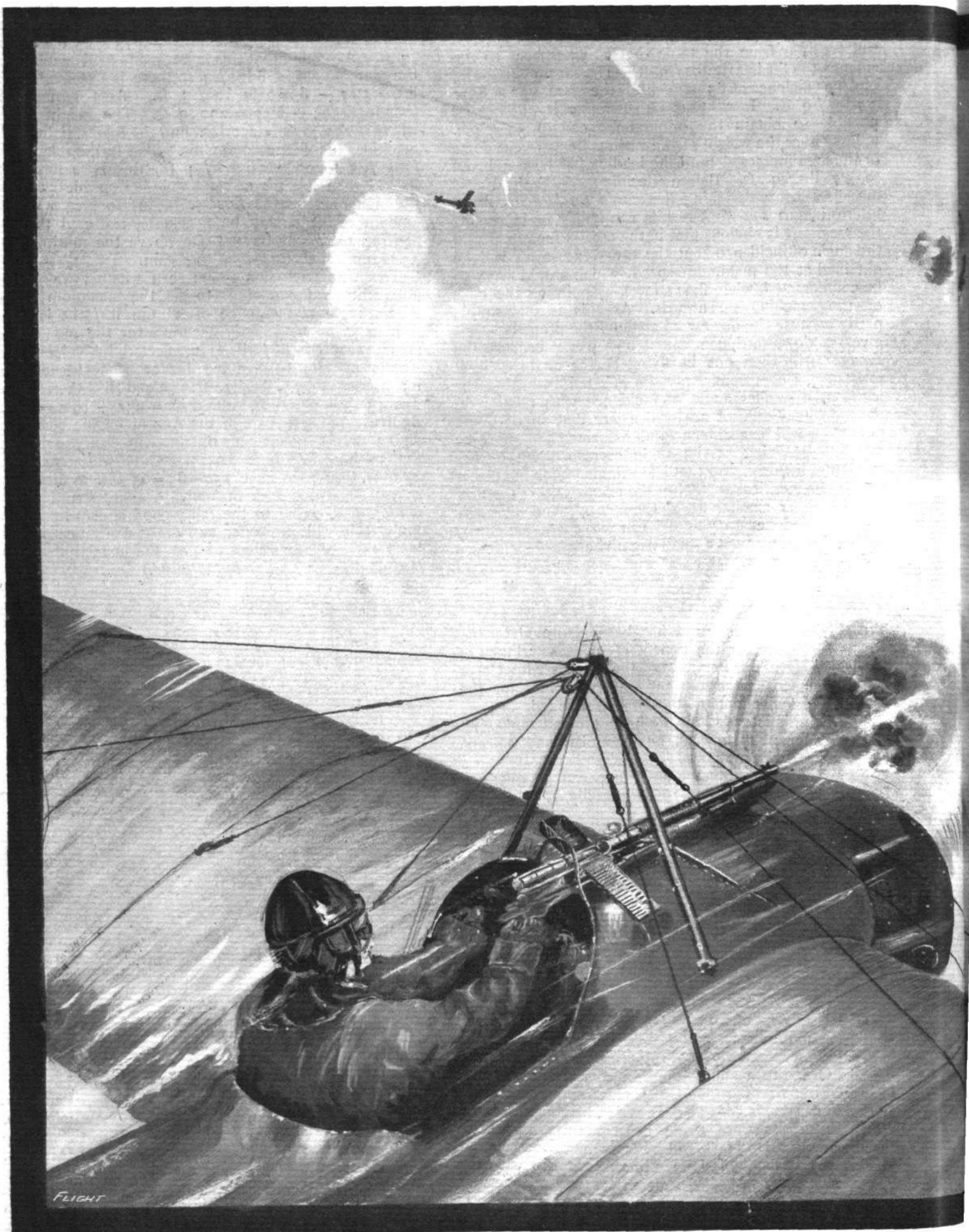
166, Piccadilly, W.



WITH the advent of finer weather the flying at Hendon is getting more lively, and last Saturday and Sunday saw, on the whole, fairly good attendances and plenty of flying. Owing to a stiffish wind on Saturday it was not until well into the afternoon that J. H. Moore "officially" started things on his 50-55 h.p. L. and P. biplane, although previously flights were made by a Maurice Farman shorthorn and a De Havilland pusher scout. Moore first made two test flights, indulging in a few almost vertical banks, spirals, &c., before starting to take up several passengers. Unfortunately, later his engine developed trouble, and so prevented him from doing as much flying as he intended—but this is only one of the many trials

of an aviator. As the wind began to drop somewhat some of the schools got going, and the ground, if not the air, presented a lively aspect. A Thomas tractor biplane also took the air, and put up quite a good show.

Sunday afternoon was much better both as regards the attendance and the flying, besides being beautifully fine. J. H. Moore was, of course, hard at work on the "Almanac," and the G.-W. stud, Marcus D. Manton, M. Osipenko and C. Pashley, were also busy on the 60 h.p. G.-W. 'buses. R. Kenworthy and W. Roche-Kelly were out on 50 h.p. Beatty-Wrights, and G. Virgilio on a 45 h.p. Beatty-Caudron. In addition, there was plenty of school work, several pupils making flights.

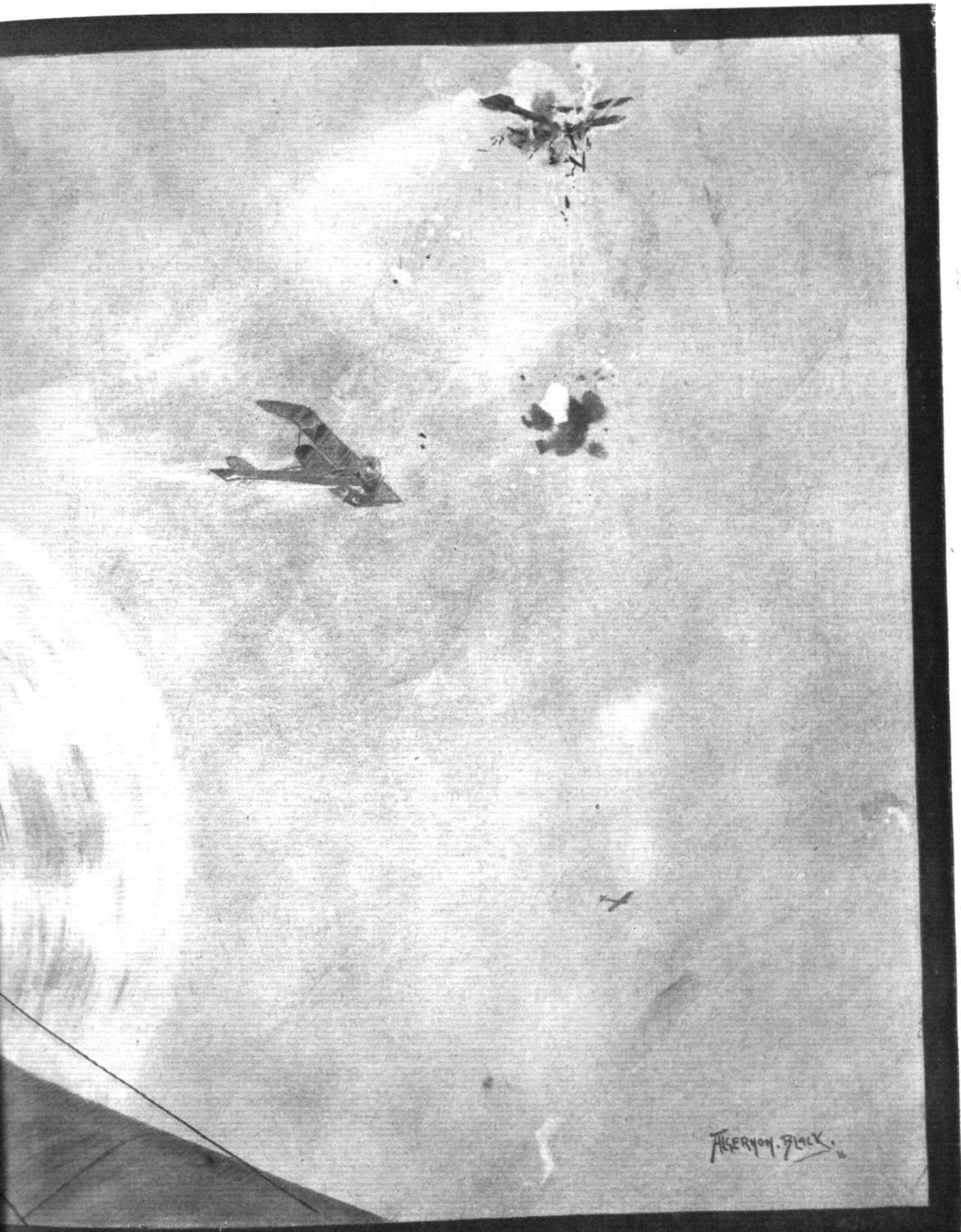


WAR IN THE AIR.—An attack upon a German A.E.G. biplane and an Aviatik. The latter subsequently this particular incident being one of the "scraps" which Vedrines on his monoplane carried through, when he shot down the German biplane. The latter subsequently shot down the Aviatik, when he shot down the German biplane. The latter subsequently shot down the Aviatik, when he shot down the German biplane.



JANUARY 27, 1916.

FLIGHT



and was brought down. This is but an example of many air fights of almost daily occurrence at the Front, machine-gun straight through the propeller field, the propeller being fitted with a deflector for warding off any attacks. It is this principle which has been adopted in the Fokker.



*Entre nous.* If I were not so mulishly obstinate I should sit down and take stock of myself, physically and mentally.

In connection with my having stated in this page last week that I had never exercised my parliamentary vote, I have had opinion—opinion of myself—offered to me, thrust upon me, crammed down my throat. So scathing has been the evidence against me, that after reflecting on the whole of it, I am rather uncertain whether I am an imbecile human or belonging to some type of animal ranking even below that.

"It's a good job everybody is not like you," remarks one of my assailants, "or where would England be?" I cannot, of course, give answer to a question on a condition which could only arise under impossible conditions, taking the interrogation as meaning if everybody refused to vote. If my questioner will allow me to suppose he means if everybody refused to vote who did not know exactly what he was voting for, and what the result would be, then I can answer that in my opinion England would be in quite as good a position as she is to-day, and some of her rulers would be saved no end of worry.

Politics is far too deep a business for me to take more than an intelligent interest in it, and, frankly, I don't know enough about it to warrant me interfering in a manner which might help to bring about results.

I will admit that I made the statement that if I had a vote in Mile End I should give it to Pemberton-Billing, but I will also confess that I should give it blindly, not knowing for certain that P.B. would do any better in the aerial defence of London than is now being done. I should have given him my vote simply because he is an airman and I am an aeronautical journalist—because he is of my party, which is the basis on which 90 per cent. of the voting is done, irrespective of the qualifications of the candidate. Consequently, most electors vote first and growl afterwards.

Judging from public opinion, it would appear that the very men who could run the Nation's business are anything but Members of Parliament, and those least fitted to carry out the job sit in the House.

Admitting, as I said before, that I know nothing about it, I cannot believe that this country is governed, and well governed, by a set of incapables, therefore I am content to leave well alone.

#### The R.N.A.S.

I don't suppose the men of the R.N.A.S. care twopence about the doddering old codger in the street, or what he says about them when he writes to the papers, but the papers themselves, when they go into articles on the subject, might at least be honest about it and not magnify all the vices of the "Sub" whilst carefully hiding his virtues.

Much has been said lately about the way service cars are used for "joy riding," and about the reckless manner in which the cars are driven through the streets, together with cries of shame at the usage of Service petrol and the wearing out of tyres at such a time as this. I will

not attempt to defend overmuch these high-spirited youths with regard to speed. As a rule, there is not the slightest reason why they should tear through the streets at a breakneck pace, causing everybody to jump for their lives, and I do wish they would try and be a little more considerate in this respect. But blood and mettle will out, and I recognise in this that temperament which makes these same men such fearsome foes when in the air "out there."

With regard to the use of Service cars. Not every one that is seen in the streets filled with young officers is being used for pleasure and pleasure only. It must not be forgotten that aerodromes, from their very nature, must be situated well away from houses, which also means railway stations. Rapid transit is imperative in these days, therefore it is necessary that a certain number of cars be placed at the disposal of the *personnel*. Nor do I think that there is anything to shout about if a car going in to the station to meet an officer arriving by train should offer a lift to those having business with the aerodrome going in the same direction. Surely the business of running the Services is not such a finicky one that we need split hairs over it. And, anyway, men cannot take cars *ad lib.* but must get the permission of their O.C., who may be relied upon to carry out his duties strictly conformable with Service rules and sensibly. The unkindest hit of all, allowing that any notice need be taken, is the cry that the R.N.A.S. does not belong to anybody. That the Navy won't recognise it. That it is not wanted. That it ought never to have been organised. That it is no use. That the men do nothing and go nowhere, but simply loaf their time away in Service cars or in the aerodrome. That there is no discipline.

They forget that the majority of the aerodromes round about are simply schools, where men are taught to become pilots.

The system of "loafing" is one embracing getting up at daybreak and working until dark. When the pilot is fully proficient he goes to an air station on the coast, or elsewhere, where I can assure the grumblers it is not all cigarettes and reading. As to their use, these same papers went into many double-headed columns over Flight Sub-Lieutenant Warneford's great achievement, himself but a few weeks previously but a learner at Hendon.

It makes nauseous reading, these blind attacks on everything and everybody, and one wonders why decent papers lend themselves to such outbursts of ill-nature.

The average R.N.A.S. "Sub" is a full-blooded, thorough-bred human, in addition to the fact that he is a gentleman, and we must be prepared to give him a little rope, whilst at the same time endeavouring to keep him within bounds.

If we ran cart-horses in the Derby, no doubt they would stand patiently at the post—the thoroughbred prances about and wants to get going. We don't want cart-horses in the R.N.A.S., and although its members dance about a bit and kick up an occasional dust, we know it is just "Blood," and blood *will* tell.





*Eddies*



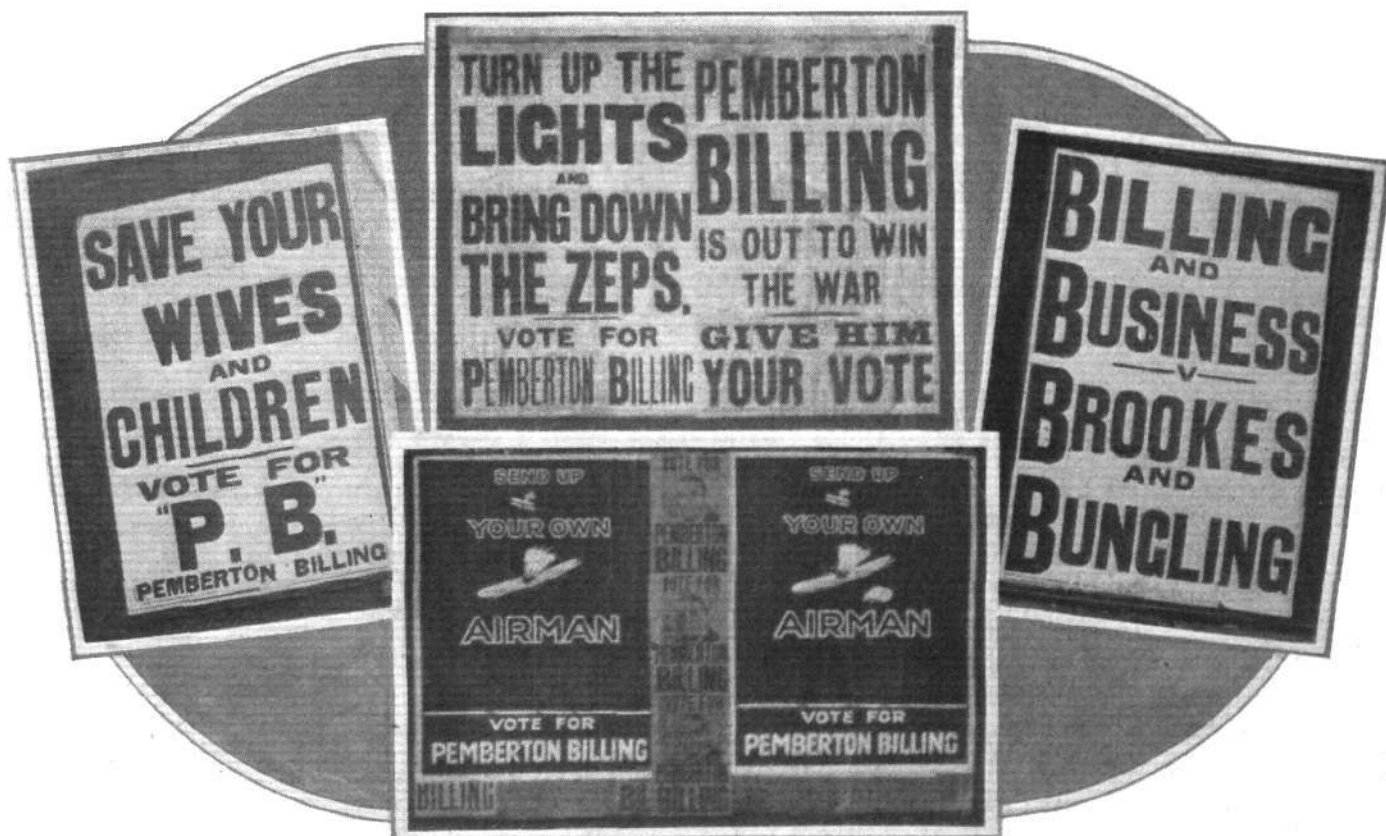
IN common with the practice on so many other of the ships of H.M. Navy, a journal was published on board the ill-fated *Natal*, which was, it will be remembered, blown up in harbour. Of the many excellent items appearing in the *Natal Newsletter*, as this cleverly-written little paper was called, the following deserves a niche to itself in the pages of "FLIGHT." One of the Jacks having heard of the Zeppelin raids (the verses, it should be understood, were written many a month ago), and being anxious to know whether the "girl he left behind" was in the raided areas, he questions his mother in the following lines:—

"Dear Ma, I 'ear as 'ow the Zepps.  
'Ave been around our way,  
And ploughed the little garden up  
Where once I used to play.  
The papers don't say whereabouts  
The bomb biffed London town;  
I 'eard it sort of second 'and  
From my old china—Brown.  
I'd take it sort of kindly, Ma,  
Your writin'—tell the worst,  
And if you was a 'angin' round  
When that there bombshell burst,  
And if the 'splosion 'it the 'ouse  
Of that there Lucy Gibbs.  
I told a 'lonely sailor'-girl,  
Well, you know—lots of fibs.  
So, see? I'm rather worried, Ma,  
Just tell me pretty quick  
If I am still engaged or not.  
Your lovin' offspring, Dick."

One of our well-known pilots, who occasionally takes his wife for a "joy ride," had been testing a fast two-seater tractor some time ago, and, finding it to his liking, offered his better half a trip. She gladly accepted, being anxious to know what flying in a really fast 'bus feels like. Everything went smoothly, the machine climbing steadily, when, looking over the side, the fair passenger saw a graveyard immediately underneath (I am not mentioning any names, but my readers can try for themselves to figure out which of our aerodromes has a graveyard for its next door neighbour), and was contemplating the not very inspiring sight, when there was a loud bang! The thought flashed across her mind that something had gone wrong, and that whosoever was to find the "bits" would not have far to carry them. For several seconds she dared not look round at her husband, yet longed to all the time. Finally, slowly turning her head in his direction, she saw him grinning at her and pointing his fingers with a gesture which unmistakably indicated an accusation of her having "cold feet." The bang was simply caused by the pilot hitting the aluminium covering with his hand to call her attention.

x x x

With reference to my little par. recently regarding the falling off in speed of an aeroplane when flying at a height, a Norwood correspondent, Mr. E. A. D. Watmough, sends the following letter: "The explanation I suggest is that a greater angle of incidence has to be



THE FIRST "AIR-TICKET" ELECTION.—Some election posters which were put out by Mr. Pemberton-Billing in connection with his fight for the vacancy in the Mile End constituency with the air ticket as his "slogan."

obtained to maintain the altitude, thereby causing more resistance by presenting more surface to the air. Also (as a rule) the aeroplane has its nose continually pointing upwards when maintaining a level flight path at a high altitude. Therefore the engine is losing some of its forward pull by pulling upwards as well as forwards."

I hardly think Mr. Watmough offers the explanation which I ask for, since he simply states that the aeroplane has to fly at a greater angle of incidence, but not why this is so. What my correspondent probably has in mind is, I should say, that since the air is of less density at great heights the wings will give less lift, and that therefore a greater angle of incidence must be maintained. On this point I can hardly agree with him, as it appears to me that if the lift decreases so does the drift or resistance, and in the same ratio. On this reckoning the machine should fly faster at a height, and the reason why it doesn't is probably to be found partly in the fact that the smaller charge taken in by the engine causes the power to drop, and partly because the propeller used, although being of the right pitch for flying in the denser air at lower altitudes is of too small pitch to be able to deal with the same mass of air at a height. Now, then, for any other views.

The news of Miss Trehawke Davies' death, which took place on November 22nd last but has only just been announced, has come to most of us who knew her keenness for flying, amounting almost to infatuation, as an unpleasant shock, in spite of the fact that she was known to be seriously ill for quite a long time previous. I do not think aviation could have lost a stauncher advocate than this remarkable sportswoman, for she never seemed to be happy unless she was aloft in her 70 h.p. Blériot monoplane—which, by the way, she presented to the R.N.A.S. some little while back. In fact, I doubt very much whether she would have lived as long as she did but for her air jaunts, for she was always a chronic invalid. She did not appear to have an atom of nerve, and seemed thoroughly to enjoy the exciting and narrow escapes, of which she experienced not a few. Several records are to her credit. She was the first woman to cross the Channel by air; the first woman to loop the loop—and left her sick bed to do so; was the only passenger to complete the course in the 1912 Aerial Derby when the late Gustav Hamel won this event. Besides Gustav Hamel, the late H. J. D. Astley, James Valentine, and Louis Noel piloted her Blériot on several occasions. *ÆOLUS.*



## London Aerodrome, Collindale Avenue, Hendon.

**Grahame-White School (R.N.A.S.).**—Straights with instructor last week: Probationary Flight Sub-Lieuts. Colquhoun, Cook, Durston, Evans, Kingsford, Rees, Templeton and West. Circuits and eights with instructor: Probationary Flight Sub-Lieuts. Aitkin, Burden, Cuckney, Rampling and Rokey. Circuits alone: Probationary Flight Sub-Lieut. Jones.

**Grahame-White Civilian School.**—Straights with instructor: Messrs. Barrett, Butler, Eichelbrenner, Hathaway, Hillaby, Leigh, Sandys, Smith, Verguill. F. Williams, Baragar and Parkinson. Circuits and eights with instructor: Messrs. Hallet, Henshaw, McClaughrie and Grasset. Circuits alone: Mr. Howe.

Instructors during week: Messrs. Biard, Hale, Manton, Pashley, Russell and Winter.

**Beatty School.**—The following pupils received instructions during last week: Messrs. Aoyong, Baldwin, Baker, Barnes, Barrow, Brand, Branford, Brynildsen, Byrne, Collier, Cumming, d'Allesina, Drysdale, Dunne, Edwards, Fellowes, Fry, Greenhill, Hodgson, Jaquin, Jones, le Champion, Markham, Martin, Mattos, Mossop, Owen, Patterson, Podmore, Richard, Samter, Sellars, Stampe, Symington, Thompson, H. Thompson Wainwright, Williams, Willmet, Young, Parsons, and Roberts.

Instructors: Messrs. G. W. Beatty, W. Roche-Kelly, R. W. Kenworthy, G. Virgilio, A. E. Mitchell and L. L. King, the machines in use being Beatty-Wright dual

control and single-seater propeller biplanes and Caudron tractor biplanes.

Mr. L. E. Owen flew for his certificate on the 18th.

**Hall School.**—The following pupils were out receiving instruction during last week:—With F. H. Stevens and C. M. Hill: Redford, Cook, Smith, Ridley, Sepulchre, Nicolls, and Dresser. With A. Chave and J. Drew: F. A. Smith, Rayne, Rochford, Ormerod, Thom, Milburn, Lieut. Cooke, G. Smith, Neal, Roberts, Ridley, Chapman, Collins, and Wooley.

Machines in use: Hall and Caudron Government type tractors.

Royal Aero Club Certificate taken by E. Wilkins.

**London and Provincial Aviation Co.**—Pupils doing rolling last week: Messrs. Aldous, Vertongen, Verbessem, Scott, Pulford, de Goussencourt, Vilain XLIII, Egelstaff, Brown, Moore, Rimer and Houba. Doing straights: Messrs. Stevens, Darwin, Hardy, Heyn, Loomes and Snow. Doing circuits: Messrs. Heyn and Hardy.

Instructors: Messrs. W. T. Warren, M. G. Smiles, H. Sykes, C. Jacques and W. T. Warren, Jun.

Royal Aero Club Certificates were taken by Messrs. Hardy and Heyn.

**Ruffy-Baumann School.**—Pupils with instructor last week: Flanders, Hamtiaux, Edgar, Muspratt, Thomsen, Durand, and Baron d'Apstael. Straights: Vernon and de Launoit. Instructors: Ed. Baumann, Felix Ruffy, Ami Baumann, and Clarence Winchester.

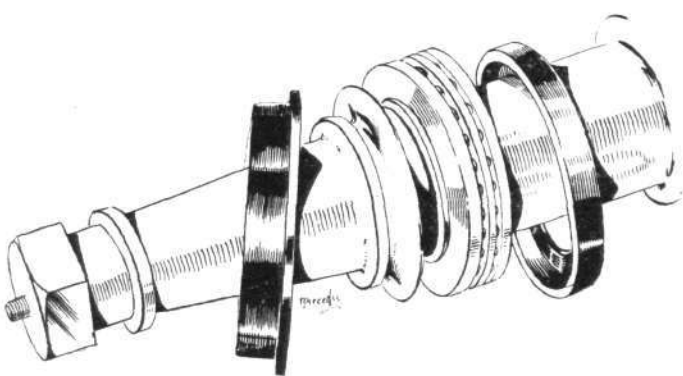
Certificate taken by de Launoit.



## THE 160 H.P. MERCEDES AERO ENGINE.

(Continued from page 42.)

REVERTING to the disposal of material, each of the lower halves of the five central bearings for the crankshaft is supported by a bridge integral with the casting, while in the upper half of the crankcase each top half bearing is housed in a partitioning wall—or rather in two, since each is in duplicate. Each of them, though very thin, is connected to its neighbour by a solid portion in such a way as to give strength to the whole, while to further reduce weight large circular holes are left in each wall parallel with the crankshaft. Moreover each lateral wall, which is, of course, integral with the main casting, is webbed at its junction with the body. Through the duplex partition



"Flight" Copyright.

The double ball-thrust washer at the front end of the Mercedes crankshaft to take the pull of the propeller.

long steel bolts, two to each, pass downwards, through the bridges in the lower half of the crankcase, beneath which they are held by a castellated nut and split-pin. The upper end of the bolts emerge through the top of the base-chamber between each cylinder, and by means of a yoke and single nut serve as holding down bolts to the cylinder base flanges, no yokes, of course, being used for holding down the outer corners of the flanges of the two extreme cylinders, the bolts here passing through the flanges and taking the nut direct. These long bolts, therefore, take the weight of the bottom half of the crankcase, and serve to bind crankcase and cylinders into one ringed unit. Naturally the two halves of the crankcase are further connected together by bolts passing through the faced flanges of each. By this construction, of course, a great deal is lost in accessibility, since the engine has to be removed bodily from the aeroplane, and completely dismantled to give access to the main and big end bearings, while even to remove a cylinder the whole of the overhead valve gear has to be first detached. Owing to the infrequency with which attention to the crankshaft bearings should be necessary, however, the first named drawback is perhaps not so important as it appears at first sight, while it gives the advantage, as we have said, of immense stiffness with light weight.

Likewise the cylinders, of which there are six separately mounted, are, considering their size, remarkably light. Apparently these are of cast steel, or perhaps a particularly tough grade of cast iron, since one was considerably dented—but not cracked or fractured—by shots. In thickness the walls are approximately  $\frac{3}{16}$  in., and the water-jackets, which are separate, are also of steel, welded on to the cylinders. A complete cylinder with water-jackets, valves, valve springs, two ignition plugs and two water connections, weighs

$22\frac{1}{4}$  lbs., and of this the two valves alone account for exactly the odd  $2\frac{1}{4}$  lbs. Each valve without its spring or spring retainer weighs  $\frac{3}{4}$  lb., but seeing that the diameter of the head is no less than 72 mm. this may be reckoned as quite light. From our illustration showing the shape of the valves it will be seen that no attempt has been made to streamline the under face, or to strengthen it at the junction of head system, and it might be thought that the valve in consequence was anything but reliable, especially in view of the great tension on the valve springs. However, since maximum revolution speeds are probably no more than 1,200 to 1,250, they are no doubt fully equal to their work, more particularly as the cam profiles are not designed to give more than a moderately quick opening and closing and comparatively small lift. The stem of the valve is 12 mm. in diameter, and is threaded at its end, a retaining collar and nut screwing on to this for placing tension on the spring, these being retained in position by a split-pin pressing through stem and nut. The coned face of the valve is narrow, and the stem works in a guide of the maximum length allowed.

Bore and stroke is 140 mm. by 160 mm. so that the valve diameter is slightly more than one-half the bore, it will be observed. This is made possible, of course, by the domed head of the cylinder, and also by slightly recessing the walls adjacent to the head for the accommodation of the valves. No cages are fitted for the valves, the seatings being cut in the top of the cylinder, and the latter do not appear to be particularly well cooled, since there is little room for else than the valve ports, the water spaces being here confined to a narrow channel set transversely between the ports.

Perhaps the most interesting novel feature of the Mercedes engine is in connection with the pistons, which are built up of two parts. Crown and gudgeon pin bosses constitute one of these and the piston walls the other. The former is apparently of steel and the latter of cast iron, the two parts being united by autogenous welding, there being sufficient depth to the "skirt" of the crown plate for the purpose. The piston heads are slightly concave; there are three compression holding piston rings and one scraper ring at the base. These are of the usual eccentric type, of cast iron, the depth of the ring varying from 3 mm. at the gap to 4.5 mm. at a point opposite. Each ring is 4.95 mm. wide and rides free in its groove, i.e., the position of the gap is not determined by pins. From top to bottom the piston measures 121 mm., its diameter at top being 139.44 mm. and at the bottom 139.74 mm., while it weighs  $5\frac{1}{2}$  lbs. complete with its rings. Inside and out the piston is beautifully finished, apparently having been subjected to the sand blasting process. The gudgeon pin is hollow, of large diameter, slightly tapered in section, and is secured in place by a simple set screw passing through one of the bosses. Though of hardened steel, the pin does not necessarily take the wear of the connecting rod's oscillation; instead there is a floating steel bush, freely perforated, riding between the connecting rod little end and the pin itself. The perforations not only allow oil to pass freely from the inside to the outside bearing faces, but also serve to hold a quantity of oil in reserve and to distribute it.

(To be continued.)

## THE ROLL OF HONOUR.

THE Secretary of the Admiralty announces the following casualties:—

Under date January 17th:

**Killed.**

Lieutenant Henry H. M. Northcott, R.N.V.R.

**Slightly Injured.**

Flight Sub-Lieutenant Lorenzo A. T. Pritchard, R.N.

Under date January 20th:

**Slightly Injured.**

Flight Sub-Lieutenant Cecil H. Darley, R.N.

The following casualties in the Expeditionary Force have been reported from General Headquarters:—

Under date January 12th:

**Previously Officially reported Missing, now Unofficially reported Killed.**

Second Lieutenant A. V. Hobbs, Royal Flying Corps.

Second Lieutenant C. E. T. Tudor-Jones, E. Lancs R. and R.F.C.

Under date January 13th:

**Missing.**

Second Lieutenant R. Barton, Royal Flying Corps.

Lieutenant E. F. W. Cobbold, Cheshire Regt., 7th Batt. (T.F.), and R.F.C.

Lieutenant E. S. Wilkinson, London R. (T.F.), 1st Batt. (R. Fus.), and R.F.C.

Under date January 14th:

**Missing.**

Lieutenant K. W. Gray, Wiltshire R., attached R.F.C.

Second Lieutenant S. Hathaway, Royal Flying Corps.

Second Lieutenant H. T. Kemp, Cheshire Regt. and R.F.C.

Second Lieutenant L. Kingdon, Worcestershire Regt. and R.F.C.

Under date January 15th:

**Wounded.**

Second Lieutenant R. A. Denne, Wiltshire Regt. and R.F.C.

Captain R. Erskine, 7th R. Scots Fusiliers and R.F.C.

Second Lieutenant J. H. Herring, Royal Flying Corps.

Lieutenant H. B. Milling, Motor Machine Gun Service, attached R.F.C.

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### The Kent Coast Raids.

IN the House of Commons, on Monday, Mr. Tennant, Under Secretary of State for War, replying to Lord Duncannon, said that as the question only reached him late that afternoon, he had not been able to obtain full information, but he understood that there were not three air raids but two, one of which took place during the night and the other during the day.

The hostile aircraft was fired at by the anti-aircraft guns, both on land and sea, and four military aeroplanes and two seaplanes went up in pursuit, but the raiders were too far ahead to be overtaken.

### British and German Bombing Raids.

SOME details regarding the activities of British and German flying officers were given in the House of Commons on Monday by Mr. Tennant in replying to Col. Greig. Mr. Tennant said he had received the following telegram:—

"The following is the information with regard to the working of the Royal Flying Corps during the last four weeks:

"Number of machines lost by us, thirteen.

"Number of enemy machines brought down certainly nine, and probably two in addition.

"Number of bombing raids carried out by us, six.

"Number of bombing raids carried out by enemy, thirteen. This comparison is modified by the fact that we have used 138 machines, including escorts, for bombing raids, while enemy have used approximately twenty.

"Number of our aeroplanes which have crossed enemy lines, 1,227.

"Number of German aeroplanes which have crossed our lines estimated at 310. The last figure is determined by reducing actual anti-aircraft observations to probable number of individual machines.

"It is pointed out that practically all aircraft fighting takes place over or behind the German lines, and owing to the prevailing strong west wind German machines hit can plane homewards, while ours often cannot. For this reason it is not possible to give an accurate comparison of the relative loss. Hostile machines are reported as 'brought down' or 'driven down' when they are seen to fall to the

Under date January 16th:

**Wounded.**

Lieutenant C. E. Sherwin, R.E. (Hampshire Fortress) (T.F.), and R.F.C.

Under date January 18th:

**Died of Wounds.**

Second Lieutenant R. B. Jenkins, S. Wales Bord. and R.F.C.

**Wounded.**

Second Lieutenant E. H. P. Cave, A.S.C. and R.F.C.

**Missing.**

Lieutenant C. O. Hayward, Lincoln R., 7th Batt., and R.F.C.

Captain V. H. N. Wadham, Hampshire R. and R.F.C.

Lieutenant W. Watts, Royal Flying Corps.

Undated:

**Previously Officially reported Missing, now Unofficially reported Killed.**

Second Lieutenant N. G. Smith, Highland L.I. and R.F.C.

**Wounded.**

Lieutenant C. G. Beatson, 5th Middlesex, attached R.F.C.

Lieutenant E. G. A. Bowen, R.A., attached R.F.C.

Second Lieutenant H. B. R. Grey-Edwards, R.A., attached R.F.C.

Second Lieutenant T. Marburg, Royal Flying Corps.

Second Lieutenant S. T. Welch, Royal Flying Corps.

The following casualty in the Mediterranean Expeditionary Force has been reported:—

Undated:

**Killed.**

Lieutenant N. H. Boles, 2nd Dorsetshire, attached R.N.A.S.

The following casualty in the Canadian Contingent with the Expeditionary Force has been reported from General Headquarters:—

Undated:

**Missing.**

Lieutenant C. V. G. Field, 4th Canadian Inf. Batt. (C. Ontario R.), attached R.F.C.

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ground uncontrolled, but the enemy probably suffers many casualties of which our officers, who are scrupulously careful in their reports, are not certain. In many cases the Germans break off combats and descend rapidly to their own lines. In such cases no claim of causing a casualty is made."

### "No Complaints."

SIR HENRY DALZIEL, in the House of Commons, on Monday, asked whether any complaints had been received from flying men at the front that since the recent change in direction they were asked to perform tasks in unfavourable weather.

Mr. Tennant: No.

### London's Anti-Aircraft Defences.

IN the House of Commons on the 20th inst., Mr. E. Cecil asked the Prime Minister whether the anti-aircraft defences of London and elsewhere were continuing to receive the close attention of his Majesty's Government, and whether he could discreetly disclose any information on the subject to reassure the public in this respect.

Mr. Asquith: The answer to the first part of the question is in the affirmative. As regards the second part, certain changes are under consideration, but I think it would not be in accordance with the public interest to make any statement at present.

### Aircraft Insurance Premiums and Income Tax.

IN Parliamentary papers, last week, the Chancellor of the Exchequer stated that aircraft insurance premiums cannot be deducted from incomes the same as life insurance premiums.

### More "Lost" Zeppelins.

LAST week stories were circulated in Holland that three Zeppelins had been wrecked in Belgium, but no confirmation has come to hand and the tales bear the evidence of having been "made in Germany" for export to England. According to one report, said to emanate from Namur, a Zeppelin, while landing in that neighbourhood, collided with telegraph wires and sustained considerable damage; two members of the crew were said to have been killed. Another report, from Maestricht, said that on the 18th inst. two Zeppelins were hit by French artillery fire north of Rheims and were subsequently wrecked in Belgium.



## AIRCRAFT WORK AT THE FRONT.

## OFFICIAL INFORMATION.

**British.***General Headquarters, Jan. 19th.*

"On January 17th sixteen of our aeroplanes attacked enemy supply dépôt at Le Sars (north-east of Albert), causing considerable damage.

"During the day there were nineteen air encounters, in five of which enemy machines were driven down. Two of our aeroplanes were lost.

"A hostile aeroplane was brought down near Frelinghien by our fire."

*General Headquarters, Jan. 20th.*

"Yesterday, in the course of fourteen fights in the air, we drove two enemy machines down into the German lines. During the day we lost one aeroplane.

"An enemy aeroplane dropped three bombs into the outskirts of an unimportant village behind our lines."

**French.***Paris, Jan. 19th. Evening.*

"During the night of the 18th two German air machines having dropped four bombs on Nancy, one of our air squadrons, at once went up and bombarded the railway stations of Metz and Arnville. Twenty-two bombs were thrown on the buildings, which were damaged."

*Paris, Jan. 20th. Afternoon.*

"An enemy aeroplane dropped three bombs on the outskirts of Lunéville doing no damage. Another enemy machine had to land near Flin (south-east of Lunéville). The two officers manning it were made prisoners near Ogéviller."

*Paris, Jan. 23rd. Evening.*

"During Sunday two of our aviation squadrons, representing a total of twenty-four machines, bombarded the railway station and the barracks at Metz. One hundred and thirty bombs were dropped on the marks previously designated.

"The bombarding aeroplanes were escorted by two protecting squadrons, the pilots of which on the way fought ten actions with Fokkers and Aviatiks. Our machines, which were violently bombarded throughout their journey, returned safely with the exception of one, which was obliged to land to the south-east of Metz."

*Paris, Jan. 24th. Afternoon.*

"During the night our aeroplanes bombarded the line Anizy-Laon and the establishment at Nogent l'Abbesse.

"This morning one of our air squadrons of seven machines dropped about twenty shells on the enemy's encampments at Houthulst and Middelkerke."

*Paris, Jan. 24th. Evening.*

"To the north of Soissons the fire of our artillery, regulated by aeroplane observation, seriously damaged a German battery.

"A squadron of thirty-two French aeroplanes bombarded the enemy cantonnements of Gevgjeli and Monastir. At the latter place over 200 bombs were dropped by our machines."

**Russian.***Petrograd, Jan. 19th.*

"On the Riga-Dvinsk front there were frequent flights by German aviators. Enemy aircraft appeared in the district of the lower course of the Aa, in Courland, near Skotel, west of Friedrichstadt, and over Dvinsk, where the Germans dropped several bombs."

*Petrograd, Jan. 21st.*

"Near the station of Vileika we captured a German aeroplane.

"In the region north-west of Zbarash an enemy balloon exploded in the air and burst into flames. Its car fell in our lines."

**Italian.***Rome, Jan. 18th.*

"Yesterday some enemy aviators flew over the Lower Isonzo, but were everywhere put to flight by the fire of our anti-aircraft guns."

"One of our aviators bombarded Volano, in the Lagarina valley, where the headquarters of an Austrian force has been established."

*Rome, Jan. 20th.*

"The Austrian *communiqué*, reporting the aeroplane raid on Ancona on January 17th, concludes with the following words: 'All our aeroplanes returned unharmed.'

"This assertion must be denied, as, in fact, one of these aeroplanes did not return to its base, but was, on the contrary, destroyed. The two aviators, Naval Ensign Alexander Ulmanský and Sub-Lieutenant Karl Kubasck, of the Corps of Naval Constructors, were made prisoners."

*Rome, Jan. 22nd.*

"Bombs were dropped by an enemy aeroplane on Donna Alto Fella. No damage was caused."

**German.***Berlin, Jan. 18th.*

"There were aerial flights near Passchendalle and Dadizeele (Flanders). Three of the four occupants of one machine were killed.

"A French aeroplane was shot down by one of our airmen near Moyonovic. The pilot and the observer were made prisoners."

*Berlin, Jan. 19th.*

"During the night enemy airmen dropped bombs on Metz. So far, only material damaged has been reported. An enemy aeroplane fell this morning to the south-west of Thiancourt. One of the occupants was killed.

"A German air squadron attacked enemy storage depôts and the aerial port at Tarnopol."

*Berlin, Jan. 20th.*

"An English biplane, carrying two machine guns and being a unit of an enemy squadron, was shot down near Tourcoing, by a German aviator. On the Yser the fire from our anti-aircraft guns forced an enemy machine to land in the enemy lines. The aeroplane was immediately destroyed by our artillery fire.

"During last night we dropped bombs on the military establishments in Nancy."

*Berlin, Jan. 23rd.*

"East of Belfort bombs have been dropped on military works."

*Berlin, Jan. 24th.*

"An enemy squadron dropped bombs on Metz, one of which fell on the residence of the bishop, and one in the courtyard of a hospital. Two civilians were killed and eight injured. One aeroplane of the squadron was shot down after an aerial battle. The occupants were taken prisoners. Our aviators dropped bombs on the railway and military establishments behind the enemy's front. On this occasion they retained the upper hand in a series of aerial battles.

"An enemy aeroplane squadron, which ascended from Greek territory, dropped bombs on Bitolj (Monastir). Several inhabitants were killed or injured."

**Austrian.***Vienna, Jan. 18th.*

"On Monday afternoon a squadron of seaplanes made a vigorous attack against Ancona, where the station, the electricity works, and barracks were hit by heavy bombs and set on fire. The very violent fire of four defence guns was quite unsuccessful, and all the seaplanes returned safely."

*Vienna, Jan. 21st.*

"A Russian aerial squadron cruised over the sector south-east of Brzezany (15-20 miles behind the front), and dropped bombs without causing any damage."



## AIRCRAFT AND THE WAR.

Writing to the *Times* from Salonika, on January 18th, Mr. G. Ward Price says:—

"An enemy aeroplane which for several days has been trying to reconnoitre our positions on the eastern flank, near the Gulf of Orfanos, from a visit to which I have just returned, met with a sudden end at 10.30 last Wednesday morning. Laying a course across the gulf towards the Bulgarian frontier, it met a squall and at the same moment had engine trouble. In full view of a British cruiser it dived towards the sea, at first evenly, then turning over and over. One of its two occupants fell before it hit the water; the other sank with the machine in a choppy sea."

The *Times* correspondent at Athens, writing under date of January 19th, says:—

"The bombardment of the Bulgarian camp at Petritch by a French squadron of 26 aeroplanes caused a good deal of damage. A considerable number of soldiers are said to have been killed or wounded.

"A Bulgarian aeroplane threw bombs on Gumendji, but no harm was done."

The *Daily Telegraph* Petrograd correspondent, in a message dated Sunday, says:—

"A private message from Kieff says that on Wednesday last

Tarnopol was attacked by an airship, which was escorted by seven aeroplanes, and threw seventy-five bombs on the town. The missiles did comparatively little damage."

Mr. G. J. Stevens, writing to the *Daily Telegraph* from Salonika, under date January 21st, says:—

"Further details are now known about the bombardment of Dedeagach and Porto Lagos. It was both well placed and executed. Its objective was the destruction of the main railway line passing north of Dedeagach, and was carried out with the assistance of seaplanes, which directed the fire of the heavy guns of the ships. Apart from the observations of the aeroplanes, the information received from over the border agrees that the damage done was considerable. Several bridges and culverts on the line were destroyed, and great havoc was also wrought on whole stretches of the line itself. The seaplanes pushed inland to Xanthi, where their appearance caused a panic among the population. A flotilla of destroyers and mine-sweepers effectively protected the Allied squadron from submarine attack during the bombardment."

The *Corriere della Sera* last week published a message from its Salonika correspondent, who, in giving some details of the operations of the Allied Fleet since the beginning of January, in attacking the Turkish positions in the Dardanelles and the Bulgarian coasts, says:—

"The Bulgarian and Turkish batteries attempted to reply, but were easily reduced to silence, and none of their shells reached the Allied ships. Squadrons of aeroplanes co-operated throughout the actions, bombarding the Bulgarian and Turkish hinterlands."

Writing from the British Headquarters in France under date January 20th, Reuter's correspondent says:—

"I observe that Berlin is very jubilant over the recent successes of the German airmen along the Western front. The new Fokker battle-plane is unquestionably a most effective machine, and (usually in greatly superior numbers) these aircraft have latterly accounted for several of our own. The great feature of the Fokker is the mounting of a machine-gun in such a manner that it can be fired horizontally, clear of the propeller, thus enabling successful attack to be made against a hostile plane. But here again the momentary advantage (if it can really even be so called) is one of means and not of men."

"Our own flying men are unanimously optimistic. They know that what the Germans can do in this way it is not denied to us to be able to accomplish, and that some very considerable overhead surprises are rapidly approaching the stage of materialising. Furthermore, the difference between the daring spirit of our men and the caution of the enemy must be borne in mind in considering the true significance of the recent successes of the latter. For every one German machine that ventures to cross our lines, ten British planes may be seen wheeling over the enemy positions. And this not once in a way, but almost any day when the weather is fit for flying. So that the average German chances of shooting down an aircraft stand in the ratio of ten to one against ours."

The *Morning Post* correspondent at Petrograd, in a message dated January 20th, says:—

"On the northern Russian front the German liveliness continues, but it is chiefly confined to active aeroplane reconnaissances. Bombs have been dropped over Dwinsk."

The *Morning Post* correspondent in Budapest, writing on January 14th regarding the conditions in Czernowitz, says:—

"Almost every day Russian aeroplanes appear over the city, throwing bombs, but the public is quite accustomed to these visitors, and in spite of the order that in case of aerial attacks everyone should seek shelter, the people always flock into the streets, enjoying the fun."

The *Telegraaf* learns that three Allied airmen successfully dropped bombs on German ammunition stores near the Franco-Belgian frontier.

Writing from Salonika to the *Daily Telegraph* under date January 23rd, Mr. G. Ward Price says:—

"The largest air raid yet carried out in the Balkans was made by the French this morning on Monastir. Starting at 7 o'clock, thirty-two aeroplanes from the aerodromes near Salonika flew off in regular squadras. There has recently been some concentration of troops, both German and Bulgar, at Monastir, though their numbers are most variously estimated. The chief object of this concentration probably is to use the shelter against winter weather which the town and buildings afford. The flight to Monastir took just over two hours. The weather was fine, but at nine o'clock a violent wind sprang up. Some of the aircraft were gunplanes, and bombarded the German and Bulgarian headquarters with their guns. Others dropped shells and bombs. Buildings known to be used as hospitals were avoided. As the vast squadra, pitching in the boisterous north wind, but flying in regular order across the blue sky, circled over the town its pilots saw black clouds of smoke rolling up from places where the leading

bombs had fallen. All the French machines were vigorously shelled by the enemy batteries round the town, but every one had returned unhurt to Salonika by noon; and on the way back they dropped any bombs they had remaining over on two or three villages near Gevgheli, where Bulgarian troops are encamped."

According to a Reuter message 45 French aeroplanes took part in the raid, while the *Daily Mail* correspondent states that about 204 bombs were dropped on Monastir and 100 on Gevgheli, Boyandzi and Gorentze.

Reuter's correspondent at Rome, writing on Monday, says:—

"Guerilla warfare is still being carried on most effectively in Montenegro. The Montenegrins have been suffering a good deal from the Austrian aeroplanes, which have been flying for some weeks past as low as 1,800 feet, using machine-guns on soldiers in open towns and villages. Eighty men were killed by this means at Niksitch in one day, and thirty at San Giovanni di Medua."

The *Morning Post* Parisian correspondent, writing on January 18th, says:—

"An eye-witness gives the following description of a battle between three French warplanes and two armoured Fokkers, of which an account appeared in a recent French *communiqué*:—

"Our warplanes, powerfully armed, belonged to a squadron commanded by Lieutenant F., who was previously in command of a flying school. On January 7th two of these machines, piloted by Corporal P. and Sergeant de G., went up to bombard certain objectives. Corporal P., his mission accomplished, was returning, when he observed a French Voisin machine attacked by a Fokker. The two aeroplanes were so close that it was difficult for the warplane to intervene without danger to the French aviator. However, it fired three shells in succession, at 1,500 yards, 1,000 yards, and 500 yards. The enemy's machine was not hit, and it continued to gain on the Voisin. Then by an avdacious manœuvre Corporal P. dived down right on the Fokker and fired twice in quick succession. These projectiles found a target, and the Fokker burst into flames, while the German batteries opened a vain fire on the warplane, which landed uninjured behind the French lines."

"The second Fokker was brought down by Sergeant de G. Attacked by an enemy machine, that was very fast and attempted to reach him from below, the sergeant suddenly reduced his speed, and, forcing his aeroplane abruptly upwards, allowed the enemy to pass him below. The German pilot, seeing his danger, swerved to the right to escape the French aeroplane's gun, but he was too late. The French pilot swept on him at full speed, and his machine gun opened fire at under fifty yards. A bullet pierced the petrol reservoir, and the Fokker fell blazing into a forest. The French machine was planing towards the landing-place when another Fokker appeared in full chase. The enemy's machine-gun opened fire, and it was only by brilliant manœuvring that Sergeant de G., who had no more ammunition, succeeded in escaping the onslaught."

## A Zeppelin Off Norway.

The *Morning Post* correspondent, at Christiania under date January 20th, reports:—

"A telegram from Narvik says that Captain Bergfjord, of the steamer 'Ofoten,' on arriving at that port stated that yesterday afternoon at five o'clock he observed a Zeppelin at a height of about 500 metres. Apparently the airship was signalling, for she showed red, green, and blue lights. Soon afterwards she disappeared, travelling in a south-westerly direction."

## A Fatal Accident in Germany.

ACCORDING to the *Mainzer Tageblatt* a fatal aviation accident recently occurred at Consenheim, near Mainz. An aeroplane dashed down to the ground, and the occupants, Lieutenant Schröder and Non-commissioned Officer Zimmermann, were severely burnt, the former with fatal effects.



The canker of "Politics," as it is seen in the United States, undermining the foundation on which Britannia rests. A cartoon from one of the American papers.



## LEGAL INTELLIGENCE.

### Blériot Manufacturing Aircraft Co., Ltd.

THE affairs of the Blériot Manufacturing Aircraft Company, Ltd., on the 18th and 19th inst. came before Mr. Justice Neville in the Companies Winding-up Court on a petition by Mr. J. E. Cassells for the compulsory winding-up of the company. Mr. Alex. Grant, K.C., and Sir Denham Warmington appeared for the petitioner Mr. J. E. Cassells; Mr. Frank Russell, K.C., and Mr. Whinney represented the company. A number of other counsel represented other shareholders interested.

Mr. Grant said this was an application for the compulsory winding-up of the company. The petitioner was John Edward Cassells, who, although holding only ten shares, was supported in the matter by (counsel understood) half the ordinary share capital of the company. The position was this: At a meeting summoned by the directors, against whom the attack was aimed, held on the previous Thursday, an overwhelming majority was in favour of the petition being granted by the Court and the company being wound up. No notice of opposition had been given.

Mr. Grant said he challenged his friend's statement that he appeared for the company or that he could show that the solicitor instructing him was representing the company. He (Mr. Grant) understood that no retainer had been given to anyone to represent the company. He understood that Mr. Russell represented a man named Harry John Lawson.

Continuing, counsel said that the grounds for launching the petition for winding up were, first, that the substratum of the company was gone; secondly, that the company was in the hands of a fraudulent set of rogues, who were wasting the assets and who would further waste the assets unless the company was wound up. In addition, there were certain technical points under the Companies Acts. The company was incorporated on the 19th May, 1915, and its object, according to the prospectus, was to acquire the business of M. Blériot. The company was promoted by the Army and Navy Contract Corporation, Ltd., which was another name for a person called Lawson, whose connection with the company was the cause of the trouble. The Army and Navy Contract Corporation was controlled by Lawson, and counsel was told that an overwhelming majority of the shares were held by Lawson. On the 9th March, 1915, an option was addressed from Paris by Messrs. Blériot to Mr. Casson (a director of the Blériot Company), in which they agreed to sell their business in England to a limited company, the capital of which was to be £160,000. The option was to become operative on payment of £1,000 by the 15th March. On the 19th May the company was incorporated; the memorandum was signed by seven clerks.

On May 22nd, three days after the incorporation of the company, these seven gentlemen purported to hold a meeting at which they passed a special resolution, which purported to have been confirmed on June 14th, and which made alterations in the articles of very grave importance. One resolution converted the company from a private into a public one, while another so altered the articles that holders of ordinary shares had not the right to attend or vote at any general meeting. On June 12th the signatories appointed the following directors: The Duke of Manchester, Mr. William A. Casson, Admiral Sir Edmund Fremantle and Mr. J. H. Swinburne, a director of the Army and Navy Corporation. On June 17th a meeting of the directors was held, at which an agreement was made for the taking over by the company of the option which had been assigned to the syndicate. Counsel said that the syndicate had received the remuneration agreed upon in consideration of services rendered, in spite of the fact that the Blériot agreement had never been converted and was never likely to be.

The statutory meeting purported to have been held on June 21st, but the directors as a body were not consulted about it and they never heard of it. As they were the only persons who could summon it, he submitted that no such meeting could be held. On the same day the prospectus was issued, and the appeal for subscriptions was supported by the National Aero Defence League, which, said counsel, was one of Lawson's concerns. The prospectus was well received, and 94,862 ordinary shares and 43,628 deferred shares were subscribed. On June 26th, however, the company was not ready with the money to carry out the agreement with M. Blériot. The latter had now seen the alterations in the articles for the first time, and he took advantage of the company's failure to refuse to complete.

On July 21st there was a meeting of the directors, attended by Lawson and Langford, at which Lawson handed in a nomination by the syndicate of himself and Langford as directors of the company. Sir E. Fremantle objected to sit at the same board with Lawson, and a resolution was proposed by Mr. Casson and seconded by Sir E. Fremantle against Lawson's being a director. The meeting was adjourned to July 23rd, when Casson and Sir E.

Fremantle were outvoted. Thereupon Sir E. Fremantle immediately resigned his directorship. Sir A. Guinness never attended a board meeting after this, and resigned his directorship in the following September. This left the control of the board and of the company in the hands of Lawson.

Meanwhile, M. Blériot refused to transfer his business to the company, the syndicate, or its nominee, and on July 29th the syndicate began an action for specific performance against M. Blériot and made the company a defendant, and that action was still pending. On June 28th, a board meeting was held at which the majority of the board passed a resolution appointing Lawson and Langford a committee to draw cheques and exercise all the powers of the directors.

Mr. Russell, on behalf of the company, said his submission was that there was no case made out for a winding-up order. His learned friend put his case on three grounds: (1) No holding of a statutory meeting; (2) misconduct, or alleged misconduct, on the part of the directors; (3) substratum gone. With regard to the first point he submitted that the statutory meeting had in fact been held; it was technically in order; it was held on June 21st, and there was a record of it in the minute book. With regard to the alleged misconduct of the directors, or some of them, the evidence put forward covered a very wide field indeed. Certain payments were alleged to have been wrongly made by the directors; even if that were so, that was no ground for winding up, although it might be a ground for bringing proceedings in the name of the company against the directors to make them account for those wrong payments. The most important ground given for winding up was that the substratum had gone. This was not the case of a company formed to enter into a specific contract. By clause 3 of the memorandum the company was to make, buy, sell, let or hire and deal in aerial conveyances of all kinds, &c., and also to provide hangars, garages, &c. If it were a fact that all chance of the company ever getting the Blériot contract completed had finally gone, then the petitioner might be able to say that the substratum had gone in the sense that the Blériot business had gone, but he submitted that this was a company with general objects under which it would still be entitled to embark upon the business of manufacturing aircraft other than Blériot.

Without calling upon Mr. Grant to reply, His Lordship gave judgment. He said the first question he proposed to consider was that of substratum. After relating the facts, he said that M. Blériot found that the company was not in a position to carry out the contract with him. It appeared to him that they were quite incapable of affording the consideration upon which the contract was based. The company had not got the required capital referred to in the option. He did not think that the 43,000 shares which were to be allotted to him came within the description of ordinary shares, and he was satisfied that the company could not set aside the £60,000 of working capital, which was one of the terms of the option. Therefore, in spite of what had been said with regard to the pendency of litigation against M. Blériot, he did not think he ought to take that into serious consideration. He was therefore brought to the question, always a difficult one, of whether the substratum of the company had gone. It appeared to him that once one knew that the contract with M. Blériot had no reasonable probability of being carried out, one found that the Blériot Manufacturing Aircraft Company, Ltd., was a company which obviously could not justify its name. The memorandum was wide, no doubt, and the prospectus was wide, and referred to the manufacture of aeroplanes without specifying that every aeroplane was to be of the Blériot type. He was satisfied that the reception by the public of the proposition would have been different had the public known that the company would have no right to carry on M. Blériot's business in this country. It appeared to him that if they were to continue their business by the construction of aeroplanes of different types they would be liable to an injunction restraining them from using the name they at present had, because it would be fraud, and under the law of the land they would be incapable of carrying on business under their registered title. That went a long way to enable him to determine the question whether the substratum had gone or not. The company was, in fact, formed for the purpose of the agreement entered into between the syndicate and the company under which the syndicate agreed to sell to the company the property which they hoped to acquire under the option given to Mr. Casson. In his opinion, therefore, this was a case in which the substratum of the company had gone, and he thought that although no doubt in the primary sense it was a question of the construction of the memorandum, at the same time the surrounding circumstances must be taken into account in considering that document. He added that it appeared to be a case where there was a considerable amount of capital left which might be diverted to other purposes, but only by the consent of all the shareholders. Coming next to the question of the misconduct of the directors, his Lordship observed that

it had been well pointed out by Mr. Russell that the misconduct of a company's directors in itself did not give any shareholder the right to succeed in a winding-up petition, because the remedy lay in the hands of the shareholders, who could, by combination, get rid of a dishonest agent just in the same way as an individual carrying on business could get rid of a dishonest agent. The idea that because a manager or a director was dishonest one must immediately wind up the company and throw away all prospects of doing business was absurd. It appeared to him that there was a complete answer to the suggestion that the company ought to be left to adopt its own means for dealing with a dishonest person, because part of the contrivance by which they had been met had been to put it out of their power to do the very thing the power of doing which was the ground relied upon in dealing with dishonest directors. With regard to the conduct of the Board—and he meant, in fact, the conduct of Mr. Lawson, because he was the moving spirit throughout—he said he did not think some of the directors ever did anything which they believed to be contrary to good faith. He thought the funds of the company had been misapplied on several occasions, and that the company had the right to say, "Our directors have misapplied our funds, and the company is so constructed that the usual remedy in the hands of the shareholders has been taken from us because we have been deprived of our right to vote, and it has been put into the hands of the very man against whom we make our complaint." The result of the evidence directed to the second point was in itself sufficient to enable him to make it right that he should grant a winding-up order, which was what he proposed to do. He thought it would not be right to embark upon the tedious process of holding a meeting to ascertain the views of the shareholders.

He could not leave the case without referring to the circular of January 5th, 1916, to the shareholders, which he thought was most dishonest. There was no suggestion there that what had happened was that the agreement with M. Blériot had not been carried out and that it was the subject of litigation, and that this would be litigation of a very doubtful character. The shareholders were invited to realise that there was nothing in the Blériot type now, and that other and much better types had come into the market. It was suggested that they should turn their backs on the Blériot type and adopt other and better types. But when they knew the real facts of the case, it appeared that that circular was most dishonest. In his opinion the management of the company had got into dishonest hands, and he made the usual order for winding-up, and gave the petitioner the costs.

Mr. Grant asked that the company should not have costs. His Lordship assented.

## Fatal Accident in Yorkshire.

WHILE flying at an aerodrome in Yorkshire, on the 17th inst., Lieut. Alastair Ross, R.F.C., met with a fatal accident. The weather was fine and calm, and when the machine had risen to a good height, it suddenly crashed to the ground and burst into flames.

## Another Fatality.

AN inquest was opened by the North-East Kent Coroner on January 19th on the body of Lieut. H. H. McFarlane Northcott, R.N.V.R., who died from the effects of an accident while flying with Flight Sub-Lieut. L. A. T. Pritchard, the machine apparently having side-slipped and fallen from a height of between 30 and 40 feet. The inquest was adjourned for the attendance of the pilot.

## A Direct-Lift Aeroplane.

MANY of our readers will doubtless remember the experiments with an ornithopter, or flapping-wing, machine, which were made by M. Passat in 1910, and they will be interested to hear that, not having obtained the results anticipated, chiefly owing to mechanical difficulties in obtaining the wing movements, he has been working for some time on entirely different lines. With his latest machine, which may be described as being of the orthopter type—having revolving wings—he has obtained results which are distinctly encouraging. It is of course impossible to give full details of the invention, but it may be said that, instead of air-screws and planes as usually fitted, M. Passat employs a series of revolving wings, arranged in pairs and moving in opposite directions, so that the blades descend on the outward half of their path. By means of an ingenious cam arrangement each blade on its down stroke presents its full surface to the air, thus producing a lifting effect, while on the up-stroke it is turned edgeways, i.e., "feathers," so that it offers a minimum resistance during its upward passage through the air. With the object of demonstrating his theories, M. Passat has built a model, which he will gladly show to anyone who is interested if they will communicate with him at 106, Durham Road, Wimbledon.



## THE MILE END "POLL."

The Hawk: "I might be useful at the top of it." (Reproduced by courtesy of the *Evening News*.)

## The Air Election.

AFTER a strenuous fight on both sides, the result of the Mile End election placed Mr. Pemberton-Billing second to Mr. Warwick Brookes by 376 votes, the figures announced on Tuesday night being: Mr. Warwick Brookes, 1991; Mr. Pemberton-Billing, 1615. The air candidate scored well for a first attempt in securing an enormous amount of popularity during the contest. Like a sportsman he took his defeat gracefully, saying, after the declaration of the poll, "I have lost the first round, but neither this war, nor my fight, is over."

## An Aeroplane Factory Opening.

WE have particulars of a very suitable building in the Midlands (near Birmingham and Coventry) ripe for aeroplane construction, with room for extensions; river adjoining. Anyone interested we shall be pleased to place in communication with owners direct. Address "Factory," c/o. Editor, "FLIGHT," 44, St. Martin's Lane, London, W.C.

## PUBLICATION RECEIVED.

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